Applying Behavioral Insights to Household Laundry Practices

Recommended Solutions Concepts

October 13, 2022

THE BEHAVIORAL INSIGHTS TEAM

Context

- This deck summarizes BIT's recommendations for behaviorally informed solutions to increase use of cold water wash (instead of warm or hot) among US households.
- This study was commissioned by WWF and supports Tide's mission to encourage sustainable laundry behavior--especially cold water wash
- The solution concepts are based on:
    - Evidence review of barriers to cold water wash, and effective past interventions to promote cold water wash and other sustainability behaviors
    - Solution ideation workshop with BIT, MMK, P&G, and WWF stakeholders
    - BIT's expertise, including drawing on the EAST framework and behavioral science

Summary of solution concept recommendations

- To address the key behavioral barriers to cold water wash (CWW), solutions ought to:
  - Change the physical and social environment to promote CWW
  - Make it physically and cognitively easier to CWW
  - Remind consumers to CWW (and interrupt auto-pilot of warm or hot wash)
  - Convey that all laundry types can be CWW
  - Demonstrate that CWW is effective (not an inferior clean)
  - Build a habit of CWW

- BIT recommends refining and testing 4 solution concepts that could achieve this:
  - 1) Work with machine manufacturers to make cold water wash the default
  - 2) Provide consumers with visual prompts on detergent containers and for the washer
  - 3) Create a social media contest where consumers post photos of CWW to win prizes
  - 4) Launch a communications campaign to demonstrate CWW cleaning performance and that all types of laundry can be CWW

Project phases

Phase 1

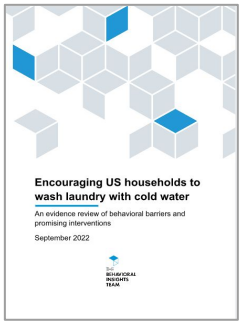
Target

Identified the desired behavior change

Increase use of cold water wash (instead of warm or hot) among US households

Explore

Researched barriers/enablers and effective interventions



Phase 2

Solution

Drew on behavioral science to design intervention concept(s)

Phase 3?

Trial

Launch trial and analyze results

Scale

Implement (adapted) intervention and learnings more broadly

Behavioral Insights (BI) approach

Behavioral insights (BI) uses evidence of the conscious and non-conscious drivers of human behavior to understand how people act and to develop solutions that change behavior.

BI Lens

BI offers a more **nuanced** and **realistic model** of how people process information, make decisions, and behave.

BI Solutions

BI solutions range from **low-cost** "**nudges**" to higher-touch **infrastructure changes**.

Evaluating Success

Evaluating what works is core to BI, often with **rigorous experimental methods** like randomized controlled trials (**RCTs**).

Recap: Summary of barriers and enablers

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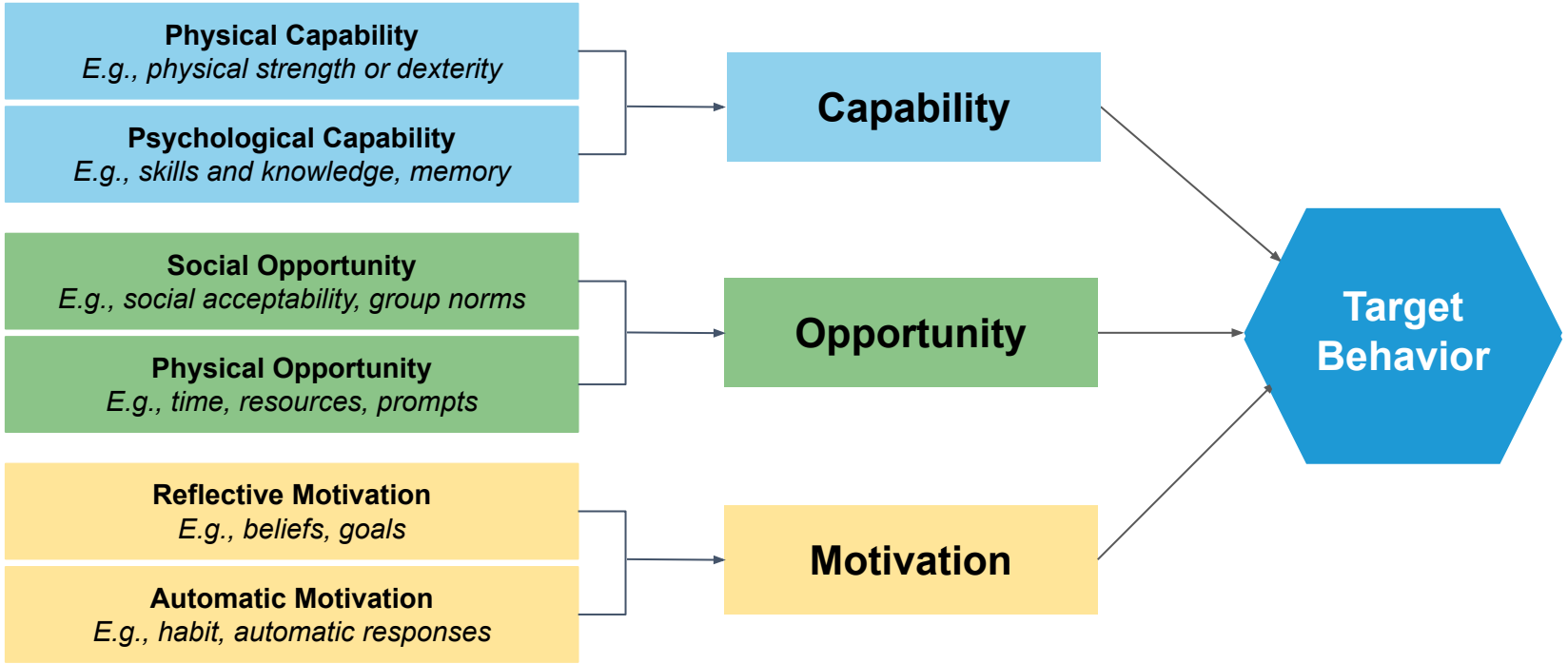
COM-B Framework guided our analysis of barriers and enablers



Source: Michie, S., van Stralen, M. M., & West, R. (2011). The behavior change wheel: a new method for characterising and designing behavior change interventions.

In the evidence review, we identified 14 barriers to CWW

Capability	• Lack of awareness about the negative impacts of washing on warm/hot • Not knowing the benefits (e.g. energy- and cost-savings) of washing with cold water • **Not knowing that laundry can be washed with cold water** • Lack of knowledge of how to set the machine to cold • **Limited attention or cognitive effort allocated to laundry** • **Forgetting to wash on cold**
Opportunity	• **Lack of helpful prompts** • **Machine defaults of warm/hot water** • **Perceived social norm that most US consumers wash their clothes on warm/hot** • **Lack of social pressure to wash with cold, since the behavior is rarely observed**
Motivation	• **Laundry is often a habitual behavior where people act based on automatic responses.** • Mental models of laundry do not include the value of washing with cold water. • **Consumers may believe that washing with cold water results in negative consequences** (i.e., not cleaning clothes as effectively). • The energy- and cost-saving benefits of washing with cold are not salient and they manifest in the future whereas the negative consequences appear in the present.

We identified 7 enablers of CWW

Capability	• Does not require much more physical effort compared to warm/hot washing
Opportunity	• Does not require new resources • Minimal time investment (compared to some other sustainability behaviors) • Well-formulated detergents can clean well in cold water*
Motivation	• Because laundry is a habitual behavior, people are likely to stick to the behavior once they've made the switch* • Aligns with consumer goals, values, and identity (e.g., monetary savings, sustainability) • Beneficial for certain load types (e.g., delicates, color preservation)

* Added since evidence review submission

Solution development process

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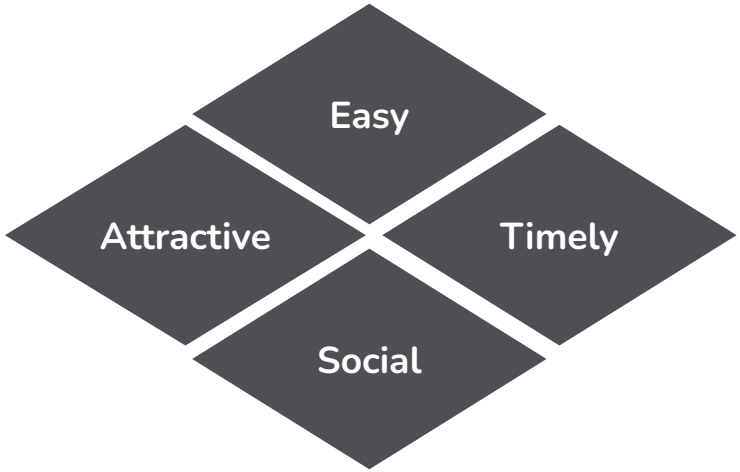
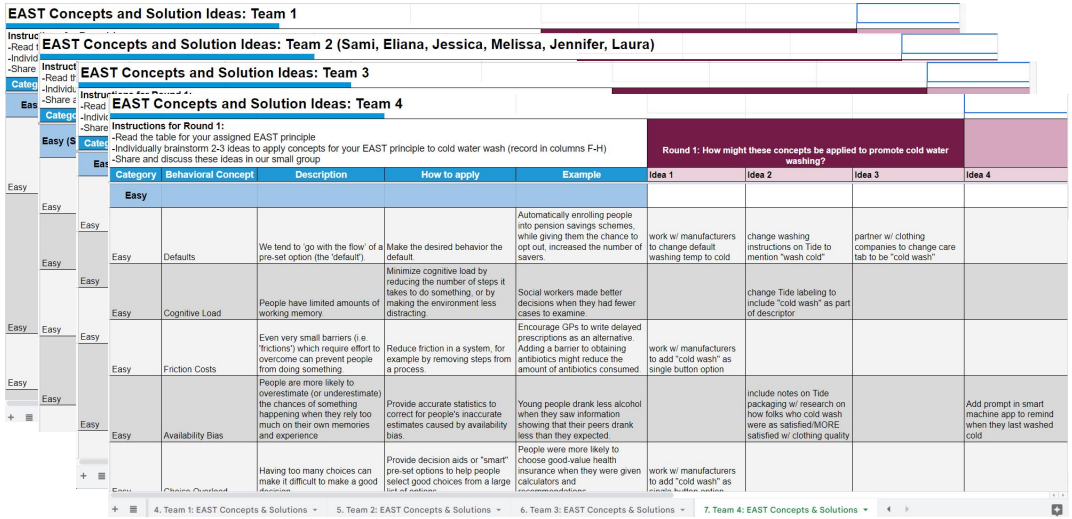
In solution workshop, 21 colleagues from BIT, MMK, P&G, and WWF generated 200 ideas grounded in EAST framework





EAST Concepts and Solution Ideas: Team 1

EAST Concepts and Solution Ideas: Team 2 (Sami, Eliana, Jessica, Melissa, Jennifer, Laura)

EAST Concepts and Solution Ideas: Team 3

EAST Concepts and Solution Ideas: Team 4

Instructions for Round 1:
-Read the table for your assigned EAST principle
-Individually brainstorm 2-3 ideas to apply concepts for your EAST principle to cold water wash (record in columns F-H)
-Share and discuss these ideas in our small group

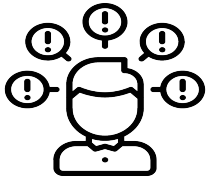
					Round 1: How might these concepts be applied to promote cold water washing?			
Category	Behavioral Concept	Description	How to apply	Example	Idea 1	Idea 2	Idea 3	Idea 4
Easy								
Easy	Defaults	We tend to 'go with the flow' of a pre-set option (the 'default').	Make the desired behavior the default.	Automatically enrolling people into pension savings schemes, while giving them the chance to opt out, increased the number of savers.	work w/ manufacturers to change default washing temp to cold	change washing instructions on Tide to mention "wash cold"	partner w/ clothing companies to change care tab to be "cold wash"	
Easy	Cognitive Load	People have limited amounts of working memory.	Minimize cognitive load by reducing the number of steps it takes to do something, or by making the environment less distracting.	Social workers made better decisions when they had fewer cases to examine.		change Tide labeling to include "cold wash" as part of descriptor		
Easy	Friction Costs	Even very small barriers (i.e. 'frictions') which require effort to overcome can prevent people from doing something.	Reduce friction in a system, for example by removing steps from a process.	Encourage GPs to write delayed prescriptions as an alternative. Adding a barrier to obtaining antibiotics might reduce the amount of antibiotics consumed.	work w/ manufacturers to add "cold wash" as single button option			
Easy	Availability Bias	People are more likely to overestimate (or underestimate) the chances of something happening when they rely too much on their own memories and experience	Provide accurate statistics to correct for people's inaccurate estimates caused by availability bias.	Young people drank less alcohol when they saw information showing that their peers drank less than they expected.		include notes on Tide packaging w/ research on how folks who cold wash were as satisfied/MORE satisfied w/ clothing quality		Add prompt in smart machine app to remind when they last washed cold
Easy	Choice Overload	Having too many choices can make it difficult to make a good	Provide decision aids or "smart" pre-set options to help people select good choices from a large	People were more likely to choose good-value health insurance when they were given calculators and	work w/ manufacturers to add "cold wash" as			

4. Team 1: EAST Concepts & Solutions | 5. Team 2: EAST Concepts & Solutions | 6. Team 3: EAST Concepts & Solutions | 7. Team 4: EAST Concepts & Solutions

BIT prioritized and refined behaviorally informed solutions that could address 6 key barriers and build a habit of CWW

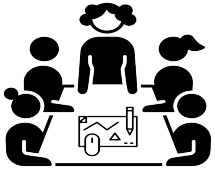
Capability	• Consumers don't know *what* to CWW • Consumers don't know *how* to CWW
Opportunity	• The physical environment discourages CWW • The social environment does not encourage CWW
Motivation	• Consumers fear potential negative consequences of CWW (i.e., less effective clean)
Capability & Motivation	• Consumers forget to CWW (or auto-pilot into warm/hot)

Our solution concepts represent 3 main types of interventions



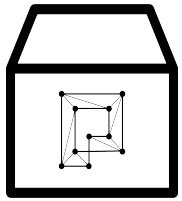
Information Provision

Can you change the information provided to tell people how or why to perform a behavior?



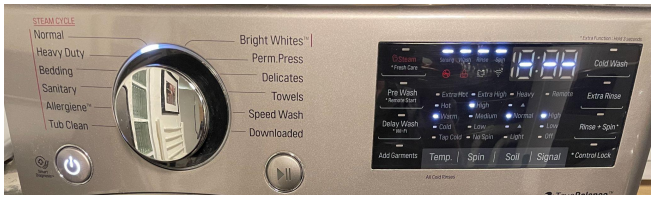
Environment Design

Can you redesign the environment where decisions are made or behaviors are completed?



Process Design

Can you redesign the process people need to follow to perform a behavior?



Solution concepts

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We developed four solution concepts

(listed in order of estimated impact from largest to smallest)

1. Cold water defaults on washing machines

2. Visual prompt on detergent containers (and for display on washer)

3. CWW social media contest with CWW-related prizes

4. Communications campaign to demonstrate that CWW cleans effectively and can be used for all laundry types

Solutions could be implemented in any combination; however, we do not recommend implementing Solution 4 (comms campaign) on its own due to its lower expected impact.

Solution 1: Cold wash defaults on washing machines

Mockup annotated with 3 key elements that require opt-out

Any “Normal” cycle will be cold.

If you selected any other cycle (e.g., whites), the default temperature would be cold (you would have to change the temperature to hot or warm).

If all you did was turn on the machine and press start, the temperature would be cold.

Ways to position CWW as default

- Recognizing it will take time for manufacturers to implement changes and for older washers to be replaced, there are strategies to position cold as the default in the **mental model**.
  - E.g., work with clothing manufacturers to put cold on care instructions or frame cold as the default in communications campaigns

Solution 1: Cold wash defaults on washing machines
Rationale

Key behavioral science concepts

- Defaults are consistently one of the most powerful behavioral interventions. They leverage **status quo bias**[1] and our **limited attention** to make the desired behavior as **easy** and **frictionless** as possible[2]. Opting out of a default would require extra cognitive/physical energy.
  - In the Netherlands, default cold reduced energy by 24% in a simulated washing study[3].
- Having cold as the temperature setting for "normal" also sends a signal to consumers that cold is the temperature they should be using (**injunctive norm**)[4].

Key barriers addressed

- The physical laundry environment discourages CWW with default warm machine settings.
  - Humans tend to follow the status quo and stick with the pre-set option or default.
- Consumers perceive warm or hot water as the default temperature or norm.
  - In P&G research, cold water was perceived as a novel departure from warm wash[5].
- Consumers lack knowledge of how to set the machine to cold (due to multiple options)
  - In the face of **cognitive overload**, consumers might use default or "normal" (warm)[6].
- Consumers have limited attention or cognitive effort allocated to laundry
  - 11% of consumers said they "don't think about it [using CWW]"[5].
- Consumers forget to wash with cold (because of limited attention and imperfect memory)
- Defaults can get people in the habit of CWW without having to directly address some other barriers around knowledge and reflective motivation.
  - E.g., consumers who "accidentally" wash on cold (because of default) learn cold is effective

Solution 2: Visual prompt on detergent

Mockup (1/2)

Design an attractive, visual prompt that reminds people to wash on cold at the point of decision. The prompt could be distributed to consumers via detergent containers (on the lid or as a hanger around bottle neck) and then affixed to washing machines by consumers. Some ideas include magnets, window clings, or stickers (cost and sustainability will need to be modelled).

When the magnet (or sticker or cling) is peeled off, it would reveal the same message/ design so it continues to be a reminder on the detergent container.

Solution 2: Visual prompt on detergent

Mockup (2/2)

Note: Consumers may be more inclined to display something removable on their machine (i.e., not a sticker that is difficult to peel off).

Solution 2: Visual prompt on detergent

Rationale

Key behavioral science concepts

- Visual prompts **interrupt our tendency to go into autopilot** when performing habitual tasks, like doing laundry.
  - In the UK, stickers on the lids of trash bins increased the collection of food waste for composting by 21%. The stickers reminder people to put their food waste in their food caddy, not the trash bin[7].
- Attractive and timely prompts can increase the **salience** of a desired behavior.
  - In Britain, green footprints leading up to trash bins in parks reduced littering by 16%[8].
- A visual prompt for cold can **counteract existing, unhelpful prompts** in the environment (e.g., clothing care instructions) and current default settings that encourage warm wash[9].

Key barriers addressed

- Consumers have limited attention or cognitive effort allocated to laundry
  - 11% of consumers said they “don’t think about it [CWW].[5]”
- Consumers forget to CWW because of limited attention and imperfect memory.
- Laundry is often a habitual behavior where people are acting based on automatic responses; consumers may just use the default/last setting (often warm)
  - E.g., German consumers tend not to adjust detergent dosage[10].
- The physical environment discourages CWW (i.e., lack of helpful prompts and machine defaults of warm/hot water)

Solution 3: CWW social media contest

Mockup

- Launch a contest where consumers are asked to take a picture of their machine settings when they've washed on cold and post the picture on social media with a hashtag.
- For each post, the consumer receives an entry for a cold wash related prize (e.g., behind the scenes tour at local zoo to see penguins, new washer, year's supply of Tide, double/triple value of year's energy savings, etc).
- Partner with social media influencers to increase the visibility of the contest and model CWW

Consumers might share what kind of laundry they washed on cold to show all types can be CWW

Contest hashtag could also convey cleaning performance message

Solution 3: CWW social media contest

Rationale

Key behavioral science concepts

- **Social norms** are among the most tested and effective sustainability interventions. Humans are heavily influenced by their peers' behavior[11]. Seeing pictures of their **social network** and other consumers washing on cold conveys that CWW is a widespread norm.
  - E.g., US college freshmen "eco reps" promoted CWW in a dorm competition[12].
- Social media posts **reduce the plausible deniability effect** by making laundry behavior more **observable** and signals a **public commitment** to CWW[13].
- Prizes are **more attractive, shorter-term rewards** (than saving energy or money), which will be perceived as higher value and hopefully outweigh the negative costs (perceived worse cleaning). **Optimism bias** makes people overestimate their chances of winning[14].
- Multiple entries helps consumers build a **habit of CWW**.

Key barriers addressed

- Not knowing that laundry can be washed with cold water
  - 49% of consumers believed "some loads need hot water[5]."
- Perceived social norm that most US consumers wash their clothes on warm/hot
  - P&G research: *"I don't have laundry that requires cold water"*
- Lack of social pressure to wash with cold, since the behavior is rarely observed
  - Plausible deniability reduces pro-environmental/pro-social behaviors.
- Benefits of CWW are not salient and they manifest in the future (vs. present downsides)
  - **Present bias (hyperbolic discounting)** increases value of immediate rewards/costs[15,16,17].

Solution 4: Comms campaign addressing outstanding barriers
Key concepts to refine into messages and campaign collateral

As a supplement to the previous solutions, we recommend the development of a communications campaign to convey two key messages:

- **All types of laundry can be washed with cold water** (not just delicates or colors)
  - Consider simple rules of thumb or checklists to help consumers know when it's an exception to the rule of using CWW.
- **Cold water cleans effectively**
  - Consider showing/telling consumers how advances in detergent ingredients/technology enable this. They may wonder why the conventional wisdom to wash non-delicates with warm/hot no longer stands.

The campaign should leverage behaviorally informed concepts to effectively address the barriers of performance concerns and knowledge gaps about CWW without unintended backfires.

- E.g., depict influencers using CWW on various types of laundry (messenger effect, social norm, modeling)

Clothing retailers and manufacturers could play a major role in this campaign. Messaging could appear in clothing aisles, at store checkout counters, or at the online checkout, or in the shipment of clothes.

Solution 4: Comms campaign addressing outstanding barriers
Rationale

Key behavioral science concepts

- The potential negative consequence, or loss, of not having clean laundry after a washing cycle could prevent US consumers from using CWW. Humans tend to be **loss averse**, with losses felt almost twice as much as equivalent gains[18]. Potential gains of energy- or cost-savings would also likely be outweighed since they happen in the future vs. negative, present consequence of unclean laundry. Due to **hyperbolic discounting/present bias**, we tend to place greater value on immediate rewards or costs (compared to future ones)[15,16,17].
- Consumers may also perceive washing with cold water as risky or as having uncertain outcomes (potentially need to rewash laundry or not have clean clothes to wear). **Ambiguity aversion** means we tend to prefer known risks over unknown risks[19].

Key barriers addressed

- Not knowing that laundry can be washed with cold water
  - When asked why they do not CWW in some or all loads, 7% of consumers reported “I don’t have items that require cold” and 49% reported “some loads need hot water”[5].
- Consumers may believe that washing with cold water will result in negative consequences (i.e., not cleaning clothes as effectively)
  - US consumers worry that cold water will be less effective at killing germs, eliminating odors, and removing stains. In a P&G study, 42% of all respondents believed that cold water does not clean as well as hot. Only 40% of infrequent CWW users believed “clothes will be clean if I wash in cold” vs. 81% of frequent CWW users[5].

Discussion

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Key remaining questions

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We recommend conducting additional consumer research to refine solution selection and development

	Potential questions
Barrier prioritization	• Which barriers to CWW are most prevalent among US consumers? • Which barriers are the hardest to overcome? • How do these answers differ by key segments? (e.g., demographic, behavioral)
Solution refinement	• Which reported concerns/benefits about CWW most drive actual behavior among US consumers? • Which specific messages or graphics are most effective? Do any backfire? • Which messenger is most effective? • Which rewards are most attractive? • What sustains novelty in prompts? • What is the comprehensibility, desirability, and effectiveness of solution prototypes? (e.g., is the detergent lid/container the best placement?) • How do these answers differ by key segments? (e.g., demographic, behavioral)

Next steps

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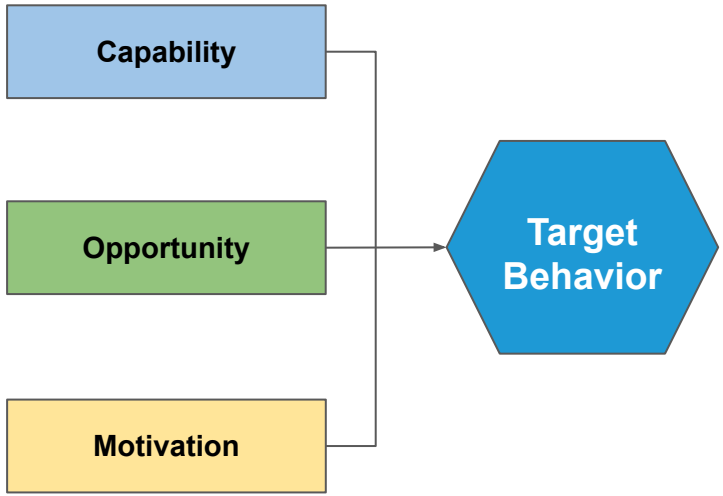
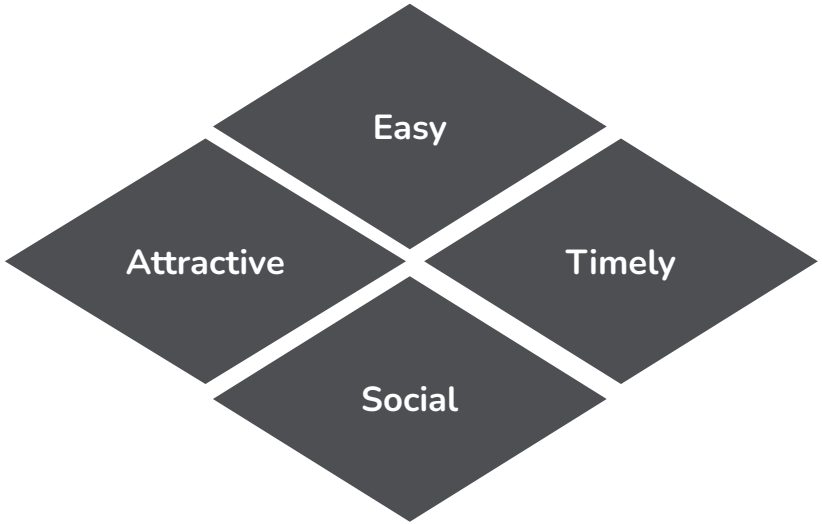
Questions? Comments?





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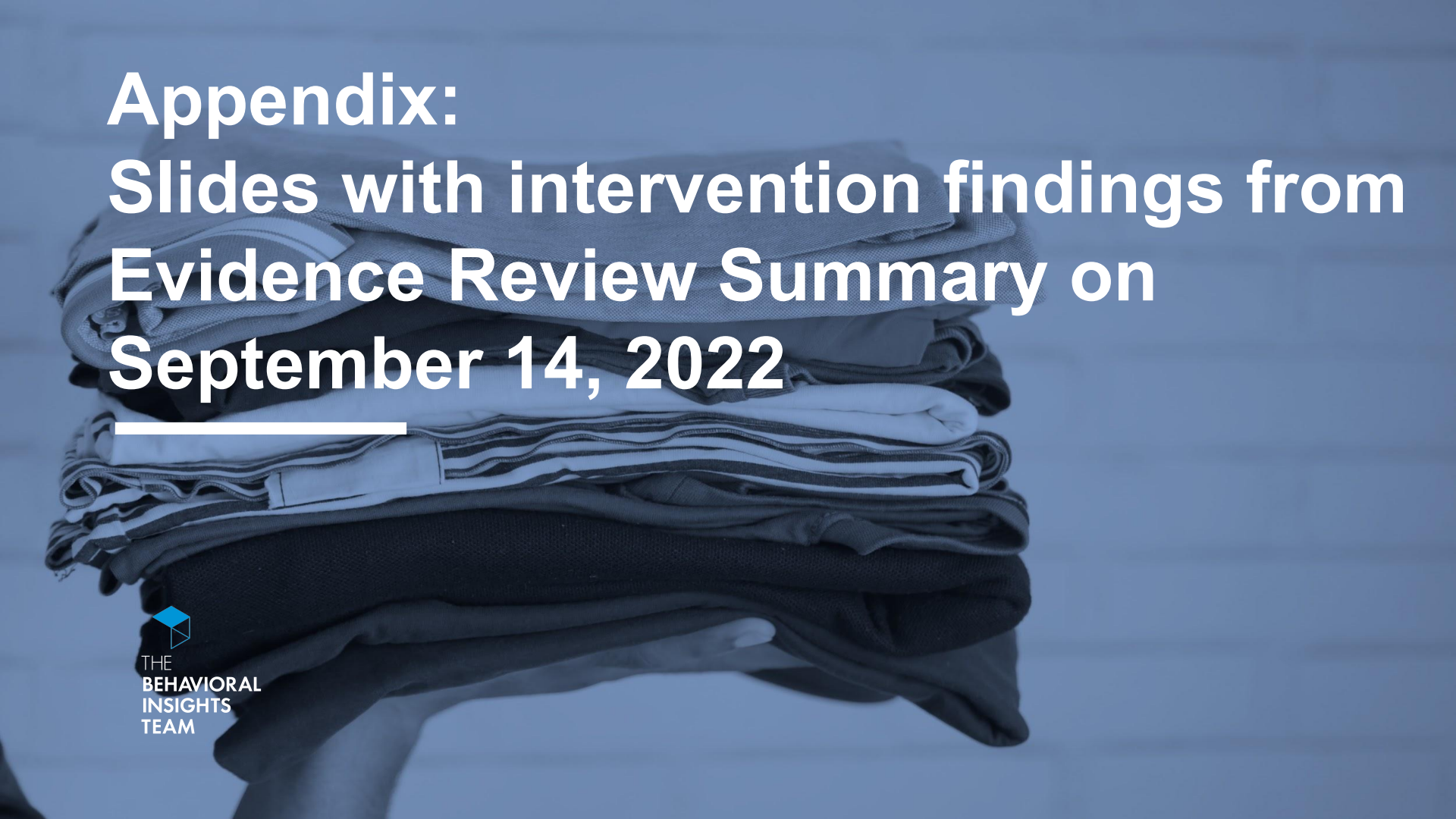
Appendix:
Slides with intervention findings from Evidence Review Summary on September 14, 2022



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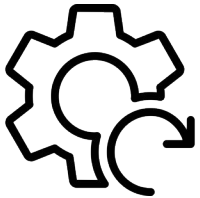
Key takeaways about interventions to promote cold water wash and sustainable behaviors

Interventions using **defaults and social norms** are among the most tested and most effective to promote sustainable behavior. We identified only 4 studies that evaluated interventions to promote cold water wash.

Make it Easy	• One simulated laundry study found that a **default** cold water setting increased use of cold water wash in the Netherlands.
Make it Attractive	• P&G's In Use Learning Study increased cold water use through a flyer that made **salient benefits** of washing with cold water: saving money, helping the environment, and protecting clothes. • In a Dutch experiment, selecting **personalized energy-saving goals** (vs. being assigned a goal) saved more energy in a simulated washing machine trial.
Make it Social & Timely	• **Training US college freshmen "eco reps"** to promote energy-saving behavior like cold water wash during a **residence hall competition** increased reported cold water wash among the eco reps and reduced overall energy use.

McCalley 2006; McCalley & Midden 2002; Bloodhart et al 2013

Make it Easy



Make the behavior the **default** setting

- E.g., one laundry study found that default cold water setting increased cold water use in simulations

Reduce hassle or friction to perform the behavior

- E.g., decrease the number of button selections needed to use cold

Make it Attractive

Make the benefits of the behavior salient (and directly relevant)

- E.g., advertise how cold wash saves money, helps the environment, and protects clothes

Change the physical environment to attract attention to the behavior

- E.g., use stickers to highlight how to perform the desired behavior

Personalize the experience

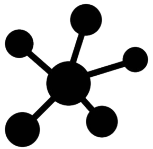
- E.g., selecting personalized energy-saving goals (as opposed to being assigned a goal) resulted in greater energy savings in a simulated washing machine trial

Making it Attractive: Examples

Keep Britain Tidy 2015

Tide In Use Learning Study

Make it Social

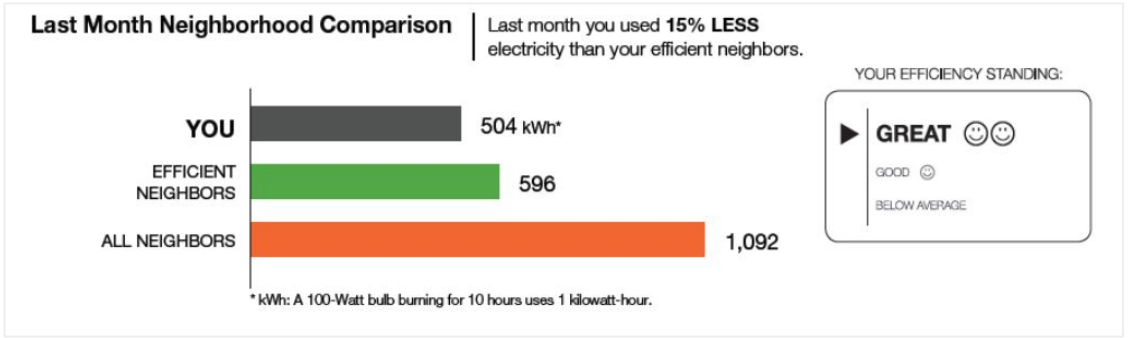


Leverage social networks

- E.g., “eco reps” in college dorms encouraged eco-habits (including cold water wash) in a competition to save energy

Highlight helpful social norms showing that others perform the behavior or that it is the expected behavior

- E.g., “700 people in your neighborhood wash laundry with cold water.”



Allcott 2011

Make it Timely

Prompt people when they have an opportunity to perform the behavior (and disrupt automatic habit) or when they are experiencing a **fresh start**

- E.g., stickers on UK trash bins reminded residents to place food waste in their municipal compost bin instead of trash; eco reps targeted college freshmen

Shearer et al 2017