RP3012

MODELLING LOW CARBON HOUSEHOLD BEHAVIOURS

Research Question

Can we improve low carbon behaviour prediction by combining two behaviour models?

The Reasoned Action Approach (RAA) has been a dominant behaviour model for decades, but poorly accounts for context; a pivotal concept in low-carbon behaviours. In contrast, Social Practice Theory (SPT) is context-driven but unempirical. We investigated whether SPT could augment the RAA when predicting carbon-relevant household behaviours.

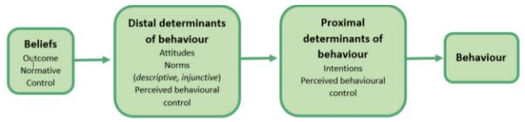

Figure 1a: In the RAA, outcome, normative, and control beliefs form the distal determinants of behaviour (attitudes, norms, and perceived behavioural control, respectively).

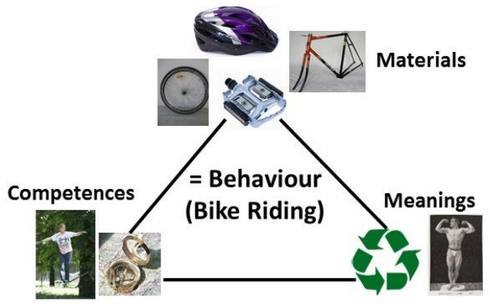

Figure 1b: According to SPT, materials, meanings, and competences exist in the world, and when they connect, a behaviour is formed.

Methodology

We asked people.

- 117 Australian homeowners and renters (49.6% male), aged 25-82 years (*M*= 50.85).
- 6 energy-efficient household installation behaviours: Solar technology, energy efficient appliances (Condition 1); Solar panels, energy efficient fridge (Condition 2); Solar hot water, energy efficient washing machine (Condition 3).
- Elicited salient beliefs for: attitudes, norms, perceived behavioural control (RAA); and materials, meanings, competences (SPT), using RAA procedure (Fishbein & Ajzen, 2010).
- Emergent modal belief categories were compared between RAA and SPT.

Results

SPT brings more context to the table.

SPT uniquely elicited more contextual elements than the RAA:

Knowledge (e.g., "*knowledgeable*", "*awareness of climate change*"), **help** (e.g., "*advice from family*", "*need someone strong to fit the machine*"), **affect** (e.g., "*Confidence*", "*feel good*"), **physical** attributes (e.g., "*strength*", "*energy*"), **tools** (e.g., "*handyman hardware*"), and a **prosocial** theme (e.g., "*Setting an example for current and future generations*") were all either overwhelmingly or uniquely associated with the low-carbon behaviours in SPT elicitations, and not in RAA elicitations.

But the RAA still contributes.

quality (e.g. "*Not very reliable*", "*Efficient*"), and usage of **resources** (e.g., "*save energy*") emerged strongly in RAA elicitations, but not in SPT.

	RAA behaviours	SPT behaviours
Knowledge	2	6
Financial	6	6
Environment	6	4
Help	3	6
Mental	0	2
Physical	0	5
Tools	0	5
Evaluation	0	1
Prosocial	0	3
Helplessness	0	1
Quality	6	1
Spatial	4	4
Affect	0	5
Resources	4	1
Commitment	1	0
Installation	1	2
Priority	2	0
Features	1	0
Access	1	0

Table 1: The modal belief categories elicited, and the number of behaviours (of the six) they were elicited for by each theory.

Conclusions

SPT provides a richer account of context than the RAA.

SPT provides a richer account of context, and in important areas:

- Emotions (**affect**) have a strong role in behaviour. Fishbein & Ajzen (2010) acknowledge role for affect as potential addition to RAA.
- **knowledge**➡**help**➡**physical** ability ➡**tools** to carry out behaviour: SPT appears to prompt mental simulation of behaviour (c.f. abstract conceptualisation in RAA); more realistic lens through which to predict behaviour?

We now have the building blocks for a highly predictive model of low-carbon household behaviour.

Anticipated impacts

If the combined SPT-RAA model predicts carbon-relevant household behaviour as accurately as we expect, we will be able to design better interventions to reduce household carbon footprints, which account for approximately 1/3 of carbon emissions. This will tangibly combat climate change.

Further information

For more information on this project, and the latest research on low carbon living, visit the LCL CRC website: http://www.lowcarbonlivingcrc.com.au/, or get in touch with the Social Action Lab at the University of Melbourne.

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