RP3012
MODELLING AND PREDICTING CARBON-RELEVANT HOUSEHOLD BEHAVIOURS
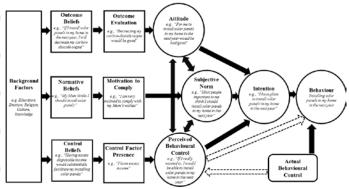
Research Question

This three-year project aims to design a coherent model of low-carbon household behaviour which can be quickly and efficiently implemented in human samples, and used to design targeted behavioural interventions. The model will build upon the Reasoned Action Approach (RAA; Fishbein & Ajzen, 2010), and will aim to improve the way in which the RAA deals with behaviour clusters and context with an approach that is informed by Social Practice Theory (Shove, Pantzar, & Watson, 2012).

Background

Carbon-relevant household behaviours:
Household behaviours account for approximately 30% of carbon emissions (Royal Commission on Environmental Pollution, 2000; Swan & Urgusal, 2009), making these behaviours instrumental in tackling climate change. There is currently no one, effective, unitary model for the prediction of these behaviours.

A Model Synthesis

The Reasoned Action Approach:

Figure 1: The Reasoned Action Approach is a popular and successful model of behaviour prediction.

Benefits: It is a time-tested, reliable predictor of behaviours.

Limitations: It does not allow for streamlined measurement of behaviour clusters.

It does not account for rich/complex context.

Why are behaviour clusters important?

Carbon-relevant household behaviours occur in multiple clusters of co-occurring behaviours (Figure 2; O'Brien, Kashima, Anderson, Meis, & Seigerman, *in preparation*).
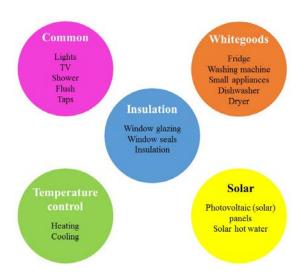
Figure 2: Carbon-relevant household occur in clusters of co-occurring behaviours: common, whitegoods (or *appliances*), insulation, temperature control, and solar.

Thus, interventions aimed at single behaviours may have flow-on effects throughout a suite of other behaviours (Figure 3).

Why is context important?

Much carbon-relevant household behaviour is habitual. Context plays a key role in habit formation and maintenance, and, inversely, context change in habit dissolution (e.g.
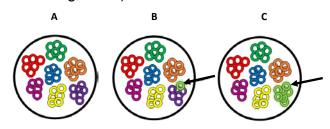
Bamberg, 2006).

Figure 3: Leveraging behaviour clusters to create streamlined interventions: Identify clusters (A); target influential behaviour/s with an intervention (B); this intervention, if successful in changing the target behaviour, will ideally have a flow-on effect throughout its cluster (C).

Social Practice Theory:

Benefits: Its focus on the social and collective organisation of behaviours allows for the study of behaviour clusters.

It has a strong focus on detailed context, which it divides into three components: the materials, meanings, and competences surrounding a practice. These components are awarded a pivotal role in the formation and dissolution of behaviours (Figure 4).

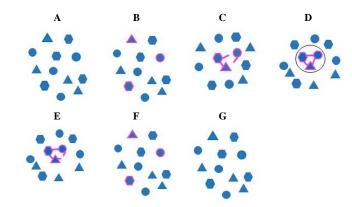*Limitations:* Does not loan itself well in its current form to use as a psychological model.

Figure 4: Social Practice Theory suggests that materials, competences, and meanings exist in the world (A), and a behaviour is created when they are linked (B, C, & D). When they are broken (panel E), the behaviour dissolves (Panels F and G).

Conclusions

Social Practice Theory and the Reasoned Action Approach present an ideal marriage of theoretical strengths for the prediction of carbon-relevant household behaviours. It is expected that a model combining these strengths will prove an accurate and streamlined predictor of these behaviours. This theory will be tested in a series of survey-based studies, run in Melbourne, Australia between October 2015 and April 2017, and the results will inform future investigations designing interventions to reduce households' carbon footprints.

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Anticipated impacts

This model for carbon-relevant household behaviour will ideally lead to streamlined interventions that substantially decrease households' carbon footprints. If successful, this stands to be a unique and critical step in ameliorating climate change from a human behavioural perspective.

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