

Study One

Method

Participants

One hundred and twenty-six participants from 53 households (Mean age = 34.14 years; SD = 16.95) participated in the survey. Of these, 27 were male, 95 were female and 4 respondents did not specify their gender. The mean number of people per household was 2.38 (SD = 0.63) and each household contained at least one parent-child relationship. Participants were recruited from two sources at the authors' university: a first year undergraduate psychology population where students (and their families) participated for course credit (14 households) and at two university open days where prospective students and their parents volunteered for the study (39 households).

Procedure

Each participant completed a short paper-based survey that measured demographic information (age, gender and relationship to the other participating household members), values, and behavioural antecedents to energy saving. Participants were asked to respond to each measure on a 5-point Likert scale ranging from 'I completely disagree' to 'I completely agree' for all measures with the exception of value orientations.

Self-transcendence (altruistic and biospheric) and self enhancement (egoistic and hedonic) values orientations were measured using a 16-item scale published by Steg et al. (2012), which was in turn based on the Schwartz value inventory (Schwartz, 2012). In the present study, two format changes were made to improve comprehension: the scale items were slightly reworded¹ and a different response scale was used². Respondents indicated how

¹Specifically, the original scales presented participants with the names of 16 values, each accompanied by a short description (e.g., "EQUALITY: equal opportunity for all"). In the present study, participants were presented with statements describing the same 16 values accompanied by the prefix "It is important for you...". For example, the value 'Equality' was converted to "It is important for you..... That everyone is given equal

important the value statements were to them on a five-point Likert scale with verbal anchors for each rating ranging from ‘Not important at all’ to ‘Extremely important’.

The four altruistic value statements (“That everyone is given equal opportunities.”, “That the world is at peace, free of war and conflict.”, “That there is social justice and that we care for the weak.” and “To be helpful and work for the welfare of others.”) formed a reliable construct ($\alpha = .67$).

The four biospheric value statements (“To respect the earth and live in harmony with other species.”, “To live in unity and fit in with nature.”, “To protect the environment and preserve nature.” and “To prevent pollution and protect natural resources.”) formed a highly reliable construct ($\alpha = .89$).

The five egoistic value statement (“To have social power e.g. control or dominance over others.”, “To be wealthy. To have material possessions and money.”, “To have the right to lead or command and have authority over others.”, “To be influential and have an impact on people and events.” and “To be ambitious, hardworking and aspiring.”) formed a reliable construct ($\alpha = .71$).

The three hedonic value statements (“To have pleasure, joy and to satisfy our desires.”, “To enjoy life by enjoying food, sex, leisure activities etc.” & “To be self-indulgent and do pleasant things.”) formed a moderately reliable construct ($\alpha = .60$).

Energy saving habits were measured using two items from the Self-Reported Habit Index (Verplanken & Orbell, 2003). One item measured frequency (“Energy saving is something I do frequently.”) and the other measured automaticity (“Energy saving is

opportunities”. The new phrasings were reviewed by an expert correspondent to ensure that they retained their original meanings (DeGroot, personal communication).

² The original scales required participants to rate how important each value is to them on a nine-point scale ranging from -1 (Opposed to my views), through 0 (not at all important) to 7 (of supreme importance). Traditionally, averages of each value orientation are computed (e.g. de Groot & Steg, 2007; Steg et al., 2012). The decision to change the rating scale was taken after consideration of the fact that the -1 point rating label “Opposed to my views” cannot be considered part of the 0-7 continuum and therefore may introduce bias to average scores. Furthermore, previous research has found that a shorter Likert scale can capture the theoretical structure of human values more accurately than the original 9-point scale (Raymond, Ward, & De Groot, 2011).

something I do without thinking.”). The two items formed a highly reliable construct ($\alpha = .82$).

Attitudes to energy saving were measured using the question ‘Energy saving is too much of a hassle’.

Perceived behavioural control was measured by two items (‘I can control the energy used in my home.’ and ‘I am able to save energy.’) which formed a reliable construct ($\alpha = .70$).

Social descriptive norms were measured by the item “My friends and family do not try to save energy”.

Personal norms were measured by the items “I feel guilty when I use a lot of energy” and ‘I feel partially responsible for climate change’ however they did not form a reliable scale $\alpha < .60$. Therefore the latter statement was taken as a separate measure, personal responsibility, reflecting the extent to which the householders considered themselves personally responsible for climate change.

Problem awareness (or awareness of consequences) was measured by the item “Climate change is a big problem for society.”

Response efficacy, the extent to which the householders believed energy saving would mitigate the problems of climate change, was measured by the item “Energy saving helps protect the environment”.

Finally, environmental self-identity was measured by the item “I see myself as an environmental-friendly person”.

Study Two

Method

Participants

Eighty-seven participants from 37 households (mean age = 39.87 years; SD = 16.28) participated in the survey. Of these, 38 were male, 45 were female and 4 respondents did not specify their gender. The mean number of people per household was 2.35 (SD = 0.68). Fifty-four per cent of the households contained multiple adults with no dependent children living at home, 35% were made up of adults with dependent children and 11% were made up of multiple pensioners. Fifty-nine per cent of the households were made up of couples only. Participants were recruited online via social media and via internal university mailing list. All households were entered into a prize draw in return for their participation.

Procedure

Each household was sent a survey pack which included two versions of a short survey similar in content to that of Study 1, along with an instruction sheet and a free post envelope. The first survey was entitled 'household survey' and there was one copy of this in each pack. The instructions specified that this survey must be completed by "the person who usually fills in surveys on behalf of the household, for example the census or the electoral registry form". Households were instructed that if no one fit that description, they should to decide who should fill out the form between them. Traditionally researchers focusing on households seek to gain responses from the 'head of the household' or the 'breadwinner' (e.g. Vringer, Aalbers, & Blok, 2007). However, these descriptions in modern day households are problematic as increasingly both partners contribute equally to household income, chores and decisions (Longhi, 2013; Oates & McDonald, 2006). Furthermore, it may be the case that the main breadwinner may be neither the most appropriate person to ask about energy behaviours and decisions, nor the person who usually attends to surveys. For these reasons we use the term 'household respondent' to describe an individual who takes the responsibility for completing survey on behalf of the household.

This household survey was comprised of three sections. 1) demographic questions: relationship to other household members, household life stage, age, gender, number of people

within household, the number of people in household not participating in the survey, and the ages of those not participating. 2) An individual section, identical in content to that used in Study 1 except that a social injunctive norm item was added, (“My friends and family think energy saving is a good thing”). 3) A proxy section, identical to section 2 in content, however the household respondent was instructed not to answer for themselves, but to “answer on behalf of your household as a whole. Please do not look at everyone else’s surveys when you do this”. Here singular pronouns and possessive adjectives were pluralized.

The second survey was entitled ‘individual survey’ and there were as many copies of this survey as there were willing participants within the household (excluding the household respondent). Only householders over 16 were asked to participate and householders were not obliged to complete the surveys. This survey was identical in content to section 2 of the household survey, and also asked the respondent to indicate their age and gender.

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