SUPPLEMENTARY MATERIAL

for:

Spillover in Sustainable Consumer Behavior: A Matter of Commitment

CONTENT:

TABLE S1

Item Wording and Coding Scheme for the Two Measures for Commitment to Environmental Protection, One Based on the Dichotomous Rasch Model, One Based on the Partial Credit Rasch Model

	EXPRESSIONS OF COMMITMENT	Coding scheme for the dichotomous model	Coding scheme for the partial credit model
1.	How often do you hire, share, or borrow products instead of buying them?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]
2.	How often do you choose fairly-traded, eco-labeled and independently certified foods, clothing, etc.?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]
3.	How often do you buy second-hand or recycled products?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]
4.	*It's too expensive for me to choose environmentally friendly products.*	0 = strongly agree/agree/somewhat agree/neither agree or disagree/somewhat disagree 1 = disagree/strongly disagree	1 = strongly disagree/disagree, 2 = somewhat disagree, 3 = neither agree or disagree, 4 = somewhat agree, 5 = agree/strongly agree
5.	Because I would feel guilty if I didn't.[b]	Scale 0-100; 0 = 0 to 74 1 = 75 to 100	1 = 0-20, 2 = 30-40, 3 = 50-60, 4 = 70-80, 5 = 90-100
6.	Approximately how many water-saving devices (e.g., water-saving shower head, tap inserts, shower timer) do you have?	Number of devices; 0 = 0 1 = number > 0	Number of devices; 1 = 0 2= number > 0
7.	*I find it hard to change my habits at home to be more environmentally friendly.*	0 = strongly agree/agree/somewhat agree/neither agree or disagree/somewhat disagree 1 = disagree/strongly disagree	1 = strongly disagree/ disagree, 2 = somewhat disagree, 3 = neither agree or disagree, 4 = somewhat agree, 5 = agree/strongly agree

continued

	EXPRESSIONS OF COMMITMENT	Coding scheme for the dichotomous model	Coding scheme for the partial credit model
8.	*I don't believe my behavior and everyday lifestyle contribute to climate change.*	0 = strongly agree/agree/somewhat agree/neither agree or disagree/somewhat disagree 1 = disagree/strongly disagree	1 = strongly disagree/disagree, 2 = somewhat disagree, 3 = neither agree or disagree, 4 = somewhat agree, 5 = agree/strongly agree
9.	To what extent is it easy to live a sustainable lifestyle?	1 = low, 5 = high; 0 = 1 to 3 1 = 4 to 5	[a]
10.	To what extent is it affordable to live a sustainable lifestyle?	1 = low, 5 = high; 0 = 1 to 3 1 = 4 to 5	[a]
11.	I'm aware of what I need to know and do to contribute to reducing pollution and protecting the environment.	0 = strongly agree/agree/somewhat agree/neither agree or disagree/somewhat disagree 1 = disagree/strongly disagree	1 = strongly disagree/disagree, 2 = somewhat disagree, 3 = neither agree or disagree, 4 = somewhat agree, 5 = agree/strongly agree
12.	*It takes too much effort to do things that are environmentally friendly.*	0 = strongly agree/agree/somewhat agree/neither agree or disagree/somewhat disagree 1 = disagree/strongly disagree	1 = strongly disagree/disagree, 2 = somewhat disagree, 3 = neither agree or disagree, 4 = somewhat agree, 5 = agree/strongly agree
13.	Because being environmentally conscious has become a fundamental part of who I am.[b]	Scale 0-100; 0 = 0 to 74 1 = 75 to 100	1 = 0-20, 2 = 30-40, 3 = 50-60, 4 = 70-80, 5 = 90-100
14.	How often do you maintain, repair, and/or "upcycle" things, in other words give new life to unwanted items instead of replacing them (e.g., furniture, electrical items)?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]

continued

	EXPRESSIONS OF COMMITMENT	Coding scheme for the dichotomous model	Coding scheme for the partial credit model
15.	I'm confident I'd know how to get the necessary information if I wanted to live more sustainably.	0 = strongly agree/agree/somewhat agree/neither agree or disagree/somewhat disagree 1 = disagree/strongly disagree	1 = strongly disagree/disagree, 2 = somewhat disagree, 3 = neither agree or disagree, 4 = somewhat agree, 5 = agree/strongly agree
16.	How often do you use product labeling to help you choose the most energy- and water-efficient products?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]
17.	What temperature do usually set your thermostat to when you are home?	temperature (C°) missing = < 17, 1 = 17 to 19, 0 = temperature > 19	1 = 17-18.5, 2 = 19-20.5, 3 = 21-22.5, 4 = 23-24.5, 5 = 25 and higher
18.	Approximately how many energy-saving devices (other than LEDs, e.g., battery recharger, extension cords with power switches, plug timers) do you use?	Number of devices; 0 = 0 1 = number > 0	1 = 0, 2 = 1, 3 = 2, 4 = 3, 5 = 4 and more
19.	How often do you walk or ride a bike instead of driving a car for short journeys?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]
20.	Guiding principle in YOUR life: preventing pollution.	0 = -1 (opposition) to 5 1 = 6 to 7	1 = -1, 2 = 0-1, 3 = 2-3, 4 = 4-5, 5 = 6-7
21.	Guiding principle in YOUR life: respecting the earth.	0 = -1 (opposition) to 5 1 = 6 to 7	1 = -1, 2 = 0-1, 3 = 2-3, 4 = 4-5, 5 = 6-7
22.	Guiding principle in YOUR life: protecting the environment.	0 = -1 (opposition) to 5 1 = 6 to 7	1 = -1, 2 = 0-1, 3 = 2-3, 4 = 4-5, 5 = 6-7
23.	How often do you switch off appliances and not leave them on standby?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]
24.	Because helping the environment while saving money and time is a sensible thing to do.[b]	11-step scale 0-100; 0 = 0 to 74 1 = 75 to 100	1 = 0-20, 2 = 30-40, 3 = 50-60, 4 = 70-80, 5 = 90-100

continued

	EXPRESSIONS OF COMMITMENT	Coding scheme for the dichotomous model	Coding scheme for the partial credit model
25.	Approximately how many LEDs do you have in use in your home?	0 = 0 1 = number > 0	1 = 0 2 = number > 0
26.	How often do you avoid food waste, for example, by planning meals ahead, measuring the right portions, using containers to prolong the life of food, or cooking with leftovers?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]
27.	To what extent is it desirable to live a sustainable lifestyle?	1 = low, 5 = high; 0 = 1 to 3 1 = 4 to 5	[a]
28.	How often do you switch off lights in rooms that aren't being used?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]
29.	How often do you use reusable shopping bags?	0 = never/sometimes/about half the time 1 = most of the time/always	[a]

NOTE.—[a] No coding required because response format was five-tier. [b] The item stem was "Why would you be interested in participating in a project such as Live LAGOM that enables you to help the environment, save money, save time, and improve your home life?" for the experimental group and "Why would you be interested in participating in a project that potentially enables you to help the environment, save money, save time, and improve your home life?" for the control group.

TABLE S2

Psychometric Features of Two Measures of Commitment to Environmental Protection Calibrated as a Dichotomous Rasch Model or as a Partial Credit Rasch Model

	Dichotomous	Partial credit
ITEM FIT STATISTICS:		
M(MS)	0.98	0.99
SD(MS)	0.14	0.23
Minimum (MS)	0.75	0.72
Maximum (MS)	1.29	1.81
PERSON FIT STATISTICS:		
M(MS)	0.98	1.00
SD(MS)	0.22	0.38
% people with poor fit ($t \geq 1.96$)	2.15%	7.51%
Separation reliability	.85	.86

TABLE S3

Fit Statistics for the 29 Expressions of Commitment to Environmental Protection When Calibrated With the Partial Credit Rasch Model Ordered as in Table A1 of the Appendix

	EXPRESSIONS OF COMMITMENT	MS_w	MS_u	t_w	t_u
1.	How often do you hire, share, or borrow products instead of buying them?	0.96	1.03	-0.54	0.45
2.	How often do you choose fairly-traded, eco-labeled and independently certified foods, clothing, etc.?	0.81	0.81	**-3.48**	**-3.46**
3.	How often do you buy second-hand or recycled products?	1.02	1.02	0.33	0.34
4.	*It's too expensive for me to choose environmentally friendly products.*	1.11	1.15	**2.05**	**2.55**
5.	Because I would feel guilty if I didn't.	1.21	1.24	**3.67**	**3.92**
6.	Approximately how many water-saving devices (e.g., water-saving shower head, tap inserts, shower timer) do you have?	0.92	0.86	-1.47	**-2.16**
7.	*I find it hard to change my habits at home to be more environmentally friendly.*	0.86	0.83	**-2.61**	**-2.84**
8.	*I don't believe my behavior and everyday lifestyle contribute to climate change.*	0.95	1.03	-0.85	0.39
9.	To what extent is it easy to live a sustainable lifestyle?	0.92	0.92	-1.26	-1.31
10.	To what extent is it affordable to live a sustainable lifestyle?	1.02	1.03	0.42	0.48
11.	I'm aware of what I need to know and do to contribute to reducing pollution and protecting the environment.	1.09	1.22	1.53	**2.89**
12.	*It takes too much effort to do things that are environmentally friendly.*	0.85	0.80	**-2.68**	**-2.93**
13.	Because being environmentally conscious has become a fundamental part of who I am.	0.72	0.71	**-5.29**	**-5.08**
14.	How often do you maintain, repair, and/or "upcycle" things, in other words give new life to unwanted items instead of replacing them (e.g., furniture, electrical items)?	0.84	0.84	**-3.06**	**-2.93**
15.	I'm confident I'd know how to get the necessary information if I wanted to live more sustainably.	1.11	1.09	1.71	1.31
16.	How often do you use product labeling to help you choose the most energy- and water-efficient products?	0.88	0.85	**-2.42**	**-2.62**

continued

	EXPRESSIONS OF COMMITMENT	MS_w	MS_u	t_w	t_u
17.	What temperature do usually set your thermostat to when you are home?	**1.81**	**2.47**	**8.57**	**12.09**
18.	Approximately how many energy-saving devices (other than LEDs, e.g., battery recharger, extension cords with power switches, plug timers) do you use?	**1.55**	**2.11**	**5.27**	**7.32**
19.	How often do you walk or ride a bike instead of driving a car for short journeys?	1.18	1.17	**3.14**	**2.82**
20.	Guiding principle in YOUR life: preventing pollution.	0.80	0.75	**-2.64**	**-3.36**
21.	Guiding principle in YOUR life: respecting the earth.	0.78	0.73	**-2.83**	**-3.47**
22.	Guiding principle in YOUR life: protecting the environment.	0.79	0.73	**-2.83**	**-3.62**
23.	How often do you switch off appliances and not leave them on standby?	1.06	1.12	1.17	**1.97**
24.	Because helping the environment while saving money and time is a sensible thing to do.	0.83	0.78	**-2.33**	**-2.68**
25.	Approximately how many LEDs do you have in use in your home?	0.97	0.96	-0.77	-1.09
26.	How often do you avoid food waste, for example, by planning meals ahead, measuring the right portions, using containers to prolong the life of food, or cooking with leftovers?	0.95	0.89	-0.83	-1.47
27.	To what extent is it desirable to live a sustainable lifestyle?	0.81	0.77	**-2.69**	**-3.11**
28.	How often do you switch off lights in rooms that aren't being used?	0.89	0.91	-1.36	-0.95
29.	How often do you use reusable shopping bags?	0.93	0.86	-0.82	-1.36

NOTE.— *Items in italics* indicate negatively formulated expressions; they were recoded and should be read as "I do not…"; Mean square (*MS*) and *t* values—unweighted ($_u$) and weighted ($_w$) by the item variance—reflect the relative discrepancy between the model predictions and the observed data and were, thus, used to assess item fit (see, e.g., Wright & Masters, 1982). **Bold figures** highlight either statistically significant *t* values ($p < .05$) or *MS* values that did not fall within an acceptable range of fit for typical survey items ($0.60 \leq MS \leq 1.40$; see Wright et al., 1994). A value of $MS > 1.20$ corresponds to an excess of more than 20% variation in the model's prediction compared with what was in the data. Note that negative *t* values represent "overfit." In other words, the measurement model of environmental attitude corresponded too closely to the data. As such, negative *t* values do not refute the Campbell paradigm, but rather do the contrary.

TABLE S4

Cost Estimates for the 29 Expressions of Commitment to Environmental Protection when Calibrated with the Partial Credit Rasch Model Ordered as in Table A1 of the Appendix

	EXPRESSIONS OF COMMITMENT	δ_1	δ_2	δ_3	δ_4
1.	How often do you hire, share, or borrow products instead of buying them?	-0.27 (0.11)	1.66 (0.16)	3.74 (0.26)	6.06 (0.47)
2.	How often do you choose fairly-traded, eco-labeled and independently certified foods, clothing, etc.?	-0.23 (0.13)	0.85 (0.15)	2.18 (0.18)	5.83 (0.52)
3.	How often do you buy second-hand or recycled products?	-1.04 (0.15)	0.54 (0.18)	1.47 (0.19)	4.54 (0.39)
4.	*It's too expensive for me to choose environmentally friendly products.*	-0.20 (0.15)	0.57 (0.17)	1.02 (0.17)	2.07 (0.19)
5.	Because I would feel guilty if I didn't.	**0.82 (0.15)**	**0.73 (0.14)**	**1.63 (0.16)**	**2.73 (0.19)**
6.	Approximately how many water-saving devices (e.g., water-saving shower head, tap inserts, shower timer) do you have?	1.68 (0.11)			
7.	*I find it hard to change my habits at home to be more environmentally friendly.*	**-0.12 (0.18)**	**0.21 (0.19)**	**0.10 (0.18)**	**0.79 (0.19)**
8.	*I don't believe my behavior and everyday lifestyle contribute to climate change.*	0.74 (0.17)	0.85 (0.17)	0.96 (0.17)	1.39 (0.18)
9.	To what extent is it easy to live a sustainable lifestyle?	**-0.83 (0.21)**	**-1.17 (0.19)**	**0.07 (0.22)**	**1.56 (0.25)**
10.	To what extent is it affordable to live a sustainable lifestyle?	**-0.62 (0.19)**	**-0.77 (0.18)**	**0.36 (0.20)**	**1.78 (0.23)**
11.	I'm aware of what I need to know and do to contribute to reducing pollution and protecting the environment.	**-0.59 (0.24)**	**-0.51 (0.24)**	**-0.96 (0.22)**	**-0.31 (0.23)**
12.	*It takes too much effort to do things that are environmentally friendly.*	**0.42 (0.19)**	**0.23 (0.18)**	**0.35 (0.18)**	**0.60 (0.19)**
13.	Because being environmentally conscious has become a fundamental part of who I am.	**0.11 (0.21)**	**-0.43 (0.18)**	**-0.05 (0.19)**	**0.59 (0.20)**
14.	How often do you maintain, repair, and/or "upcycle" things, in other words give new life to unwanted items instead of replacing them (e.g., furniture, electrical items)?	-1.10 (0.12)	-0.16 (0.19)	0.21 (0.19)	1.86 (0.24)

continued

	EXPRESSIONS OF COMMITMENT	δ_1	δ_2	δ_3	δ_4
15.	I'm confident I'd know how to get the necessary information if I wanted to live more sustainably.	**-0.47** **(0.23)**	**-0.55** **(0.22)**	**-0.49** **(0.22)**	**-0.30** **(0.22)**
16.	How often do you use product labeling to help you choose the most energy- and water-efficient products?	0.13 (0.15)	0.89 (0.17)	0.92 (0.16)	2.39 (0.19)
17.	What temperature do usually set your thermostat to when you are home?	0.17 (0.14)	1.43 (0.17)	3.47 (0.28)	3.66 (0.24)
18.	Approximately how many energy-saving devices (other than LEDs, e.g., battery recharger, extension cords with power switches, plug timers) do you use?	1.33 (0.11)	3.37 (0.19)	5.19 (0.31)	5.66 (0.27)
19.	How often do you walk or ride a bike instead of driving a car for short journeys?	-0.72 (0.17)	0.14 (0.19)	0.32 (0.19)	1.22 (0.21)
20.	Guiding principle in YOUR life: preventing pollution.	**-1.45** **(0.64)**	**-2.64** **(0.58)**	**-3.47** **(0.57)**	**-3.25** **(0.56)**
21.	Guiding principle in YOUR life: respecting the earth.	**-0.85** **(0.69)**	**-2.60** **(0.59)**	**-3.49** **(0.57)**	**-3.36** **(0.56)**
22.	Guiding principle in YOUR life: protecting the environment.	**-1.69** **(0.76)**	**-3.12** **(0.71)**	**-3.81** **(0.69)**	**-3.75** **(0.68)**
23.	How often do you switch off appliances and not leave them on standby?	**-0.86** **(0.19)**	**-0.04** **(0.21)**	**-0.34** **(0.19)**	**0.95** **(0.22)**
24.	Because helping the environment while saving money and time is a sensible thing to do.	**-0.25** **(0.33)**	**-1.09** **(0.28)**	**-1.36** **(0.27)**	**-1.50** **(0.27)**
25.	Approximately how many LEDs do you have in use in your home?	-0.11 (0.10)			
26.	How often do you avoid food waste, for example, by planning meals ahead, measuring the right portions, using containers to prolong the life of food, or cooking with leftovers?	**-0.98** **(0.28)**	**-0.91** **(0.28)**	**-1.54** **(0.26)**	**-0.79** **(0.27)**
27.	To what extent is it desirable to live a sustainable lifestyle?	**-0.57** **(0.50)**	**-2.39** **(0.42)**	**-2.46** **(0.41)**	**-2.53** **(0.41)**
28.	How often do you switch off lights in rooms that aren't being used?	**-1.85** **(0.53)**	**-1.78** **(0.53)**	**-3.09** **(0.49)**	**-3.07** **(0.49)**
29.	How often do you use reusable shopping bags?	**-1.74** **(0.54)**	**-1.81** **(0.53)**	**-2.87** **(0.49)**	**-3.27** **(0.49)**

NOTE.—Cost estimates (δ) are expressed in logits with standard errors of measurement in parentheses. For the partial credit model, there were maximally four cost estimates per

item. **Bold figures** highlight estimates that violated the model-implied increasing cost order from δ_1 to δ_4.

TABLE S5

Descriptive Statistics, Reliabilities, and Bivariate Correlations for the Two Estimates of Commitment to Environmental Protection per Person

	N	*M*	*SD*	1	2
1 Dichotomous	233	-.43	1.26	*.85*	1.00[a]
2 Partial Credit	233	.52	.51	.92	*.86*

NOTE.—*M*s and *SD*s are expressed in logits. In the correlation matrix (columns 1 and 2), the *diagonal cells* indicate separation reliabilities (for details, see Wright & Masters, 1982). Off-diagonal values represent Pearson correlations that were either uncorrected for measurement error attenuation (below the diagonal; this coefficient was statistically significant at $p < .001$) or corrected (above the diagonal). [a] This coefficient was truncated to 1.00.