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## Intentions to make sustainable tourism choices: do value orientations, time perspective, and efficacy beliefs explain individual differences?<sup>†</sup>

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### ABSTRACT

There is a growing literature addressing psychological variables that can be associated with choices of environmentally sustainable tourism alternatives. This paper contributes to this literature by focusing on individual differences in value orientations (i.e. egoistic values, altruistic values, and biospheric values), time perspective (i.e. consideration of immediate consequences and consideration of future consequences), and efficacy beliefs (i.e. self-efficacy and collective efficacy). A cross-sectional survey ( $N=385$ ) was carried out to investigate the role of each of these psychological variables in explaining intentions to choose environmentally sustainable travel options. Overall results showed that value orientations, time perspective, and efficacy beliefs together contributed to explaining about 53% of the variance in behavioural intentions. Consideration of future consequences and collective efficacy showed the strongest associations with behavioural intentions. Implications of these findings for research and managerial practice are noted.

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### KEYWORDS

Sustainable tourism; values; consideration of future consequences; self-efficacy; collective efficacy

## Introduction

Departing from the assumption that all members of society share a collective interest in preserving the environment, some researchers have taken the social dilemma literature as a starting point for understanding consumer choices relevant to the environment (e.g. Gupta & Ogden, 2009; Khachatryan, Joireman, & Casavant, 2013; Schuitema & De Groot, 2015). Social dilemmas are situations where private and collective interests are at odds with each other (Van Lange, Liebrand, Messick, & Wilke, 1992). The essence of the dilemma is that from an individual perspective it may seem reasonable to pursue private interests irrespective of what others do; yet, if all of those involved in the situation decide on acting that way, this eventually leads to an outcome (for oneself and others) that

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is worse than one could expect from everybody acting in the service of collective interests (Van Lange et al., 1992).

There are situations in which also the consumer choices made by individual tourists can be construed as social dilemmas (for similar views, see Anable, Lane, & Kelay, 2006; Doran, Hanss, & Larsen, 2015). As an example, participation in voluntary carbon offsetting schemes has been advocated as a means of compensating for greenhouse gas emissions that result from flying (UNWTO-UNEP, 2008). On the one hand, each person appears to be better off by not participating in these schemes as this would require using additional financial resources. On the other hand, if everybody avoids taking environmental issues into account when flying, there is an opportunity cost to this in that global greenhouse gas emissions continue to grow, accumulating to potentially negative consequences for all members of society including oneself. This exemplifies some of the tensions that can arise when private and collective interests are considered in the tourism domain; a phenomenon that has been discussed particularly in regard to air travel decisions and climate concerns (Higham, Cohen, & Cavaliere, 2014).

This paper is located within work on the psychological characteristics of those willing to take environmental issues into account when choosing among different tourism alternatives (e.g. Doran & Larsen, 2016; Doran et al., 2015; Hedlund, 2011; Hedlund, Marell, & Gärling, 2012; Passafaro et al., 2015). Specifically, this paper focuses on a combination of psychological variables (i.e. value orientations, time perspective, and efficacy beliefs) as explanatory variables for travel choices that prioritize long-term collective interests (e.g. mitigation of global climate change) over short-term private interests (e.g. saving money). This approach takes into account that, in an environmental context, there is often not only a social dimension (individual vs. collective interests) but also a temporal dimension (short-term vs. long-term interests) to the initially described conflict (Joireman, Lasane, Bennett, Richards, & Solaimani, 2001; Joireman, Van Lange, & Van Vugt, 2004).

## Literature review

### *Value orientations*

Personal values can be understood as “desirable transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity” (Schwartz, 1994, p. 21). Prior research has linked sustainable consumption decisions with individual differences in value orientations, which is the relative importance that one attaches to clusters of similar values (e.g. De Groot & Steg, 2010; Schuitema & De Groot, 2015). In a tourism context, Hedlund (2011) found that universalism values (such as equality, social justice, and peace on earth) were positively related to environmental concern, which in turn was positively related to willingness to make financial sacrifices for protecting the environment and purchasing intentions for environmentally sustainable tourism alternatives. Similarly, Hedlund et al. (2012) demonstrated that people with a self-transcendence value orientation (i.e. people who value universalism and benevolence as guiding principles in their lives; Schwartz, 1992) showed higher levels of environmental concern than people with a self-enhancement value orientation (i.e. people who value power and achievement as guiding principles in their lives; Schwartz, 1992). Both studies conceptualized environmental concern as the perceived importance of

sustainability issues in vacation choice, including destination, time of departure, activity, travel mode, accommodation, and length of stay.<sup>1</sup>

One prominent approach of studying value orientations in relation to pro-environmental behaviour distinguishes between egoistic values, altruistic values, and biospheric values (e.g. Stern, Dietz, Abel, Guagnano, & Kalof, 1999; Stern, Dietz, & Kalof, 1993). According to this approach (e.g. Stern et al., 1999), willingness to engage in pro-environmental behaviour depends partly on the degree by which people are concerned with the costs and benefits for themselves (i.e. egoistic values), for other people (i.e. altruistic values), or for the entire eco-system (i.e. biospheric values). Research has provided empirical support in regard to differentiating between the three value clusters (e.g. De Groot & Steg, 2007, 2008) and their predictive value for indicators of environmental engagement (e.g. De Groot & Steg, 2010; Khachatryan et al., 2013). Passafaro et al. (2015, Study 1) recently showed that egoistic and biospheric values, amongst other psychological characteristics such as positive attitudes towards sustainable tourism and affinity towards diversity, are also indicative of sustainable tourism choices. People who endorse biospheric values were also more likely to prefer tourism activities and services with low environmental and social impact, whereas people who put an emphasis on egoistic values were less likely to have such preferences.

Recent work from Schuitema and De Groot (2015) demonstrated that values can influence purchasing intentions by guiding how much attention consumers devote to specific product attributes (e.g. price or environmental impact). Therefore, we expect that people with strong egoistic values are less likely to intend on making environmentally sustainable travel choices than people with weak egoistic values. We also expect that people with strong altruistic (or biospheric) values are more likely to show such intent than people with weak altruistic (or biospheric) values.

*Hypothesis 1a:* Egoistic values will be negatively related to intentions to choose environmentally sustainable travel options.

*Hypothesis 1b:* Altruistic values will be positively related to intentions to choose environmentally sustainable travel options.

*Hypothesis 1c:* Biospheric values will be positively related to intentions to choose environmentally sustainable travel options.

### **Time perspective**

Previous research addressing time perspective in an environmental context has often focused on consideration of future consequences (i.e. the extent to which people consider future outcomes when making decisions that concern present behaviours; Strathman, Gleicher, Boninger, & Edwards, 1994). This research suggests that individual differences along these parameters may account for some of the variation with regard to environmental engagement (for a meta-analysis, see Milfont, Wilson, & Diniz, 2012). For instance, Strathman et al. (1994) found that consideration of future consequences (CFC) was positively related to environmental activism (Experiment 1) and that CFC added explanatory power over and above other individual-difference variables such as for instance conscientiousness (Experiment 2). Other studies have shown that people with strong CFC (compared to people with weak CFC) are more likely to recycle their waste (Lindsay &

Strathman, 1997), commute via public transportation (Joireman et al., 2004), engage in pro-environmental political behaviour (Joireman et al., 2001), or hold positive attitudes towards environmental preservation (Milfont & Gouveia, 2006).

Most studies incorporating CFC have applied it as a one-dimensional construct, that is, people are either more oriented towards immediate or towards future consequences. This may cause a loss of information since people may not only consider either immediate or future consequences but they may also consider both aspects simultaneously (Joireman, Shaffer, Balliet, & Strathman, 2012). While there is empirical support for a two-dimensional conceptualization of the construct (e.g. Bruderer Enzler, 2015; Joireman et al., 2012), the relative importance of each dimension seems to differ across behavioural domains and contexts. For example, Joireman et al. (2012) developed and tested a measurement instrument that distinguishes between concern for immediate consequences (i.e. CFC-Immediate) and concern for future consequences (i.e. CFC-Future). They found that people with strong CFC-Future were more likely to hold positive attitudes towards and intentions to engage in healthy eating behaviours than those with weak CFC-Future, but that individual differences in CFC-Immediate did not predict such behaviours. Arnocky, Milfont, and Nicol (2013, Study 1) found that environmental concern and motivation to engage in environmental activism were negatively associated with CFC-Immediate but unrelated to CFC-Future. Bruderer Enzler (2015) found that CFC-Future and CFC-Immediate were both associated with self-report measures of everyday pro-environmental behaviours, and that environmental concern partially mediated this relationship.

Assuming that the short-term consequences of choosing environmentally sustainable travel options are often costly from an individual perspective (e.g. additional travel time, additional financial cost), we expect these choices to be negatively associated with CFC-Immediate. We further postulate that, in response to the temporal delay between environmentally unsustainable travelling and its anticipated negative collective outcomes, decisions in favour of environmentally sustainable travel options are positively associated with CFC-Future.

*Hypothesis 2a:* CFC-Immediate will be negatively related to intentions to choose environmentally sustainable travel options.

*Hypothesis 2b:* CFC-Future will be positively related to intentions to choose environmentally sustainable travel options.

### **Efficacy beliefs**

Bandura (1997) describes perceived self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). In a social dilemma context, the term self-efficacy is used somewhat differently, referring to judgments about whether one’s contribution helps the group to secure some valued collective outcome (Kerr, 1992). Research suggests that strengthening these beliefs might promote sustainable consumption decisions at home (Gupta & Ogden, 2009; Hanss & Böhm, 2010; Hanss, Böhm, Doran, & Homburg, 2016) and on vacation (Doran et al., 2015). In their study, Doran et al. (2015) found that people with a strong sense of self-efficacy (e.g. being confident that their choices of environmentally friendly transportation can help reduce carbon emissions) were also more likely to be willing to pay for environmental protection as

tourists. Hares, Dickinson, and Wilkes (2010) used a focus group approach to explore the role of environmental awareness in regard to air travel decisions. They found that people were unwilling to change current behaviours although they were aware of the link between aviation and global climate change. One argument that people used to justify their current behaviour was that individual efforts to reduce carbon emissions are only marginal when considering them in a global context. This complements research showing that personal views about the issue of environmental sustainability not always correspond to travel behaviours (Barr, Shaw, Coles, & Prillwitz, 2010; Miller, Rathouse, Scarles, Holmes, & Tribe, 2010).

Hanss and Böhm (2010) distinguished between direct and indirect components of self-efficacy beliefs when it comes to sustainable consumer choices. While they found that both components were positively associated with sustainable purchase habits, self-efficacy towards indirectly influencing the environment (through encouraging other consumers) explained more variance than self-efficacy towards directly influencing the environment (through own consumer choices). Hanss et al. (2016) reported similar results, and furthermore, found self-efficacy (direct and indirect) to explain greater variability in intentions to purchase sustainable groceries than any other investigated variable (attitudes, norms, and demographics). Accordingly, we expect that people distinguish between beliefs about the direct and beliefs about the indirect environmental impact of their travel choices, and that the latter shows the stronger association with intentions.

*Hypothesis 3a:* Self-efficacy beliefs will be positively related to intentions to choose environmentally sustainable travel options.

*Hypothesis 3b:* Self-efficacy beliefs concerning people's indirect impact will explain more variance in intentions than self-efficacy beliefs concerning people's direct impact.

Perceptions of collective efficacy is another factor that can benefit cooperation in social dilemmas (De Cremer, 1999; Seijts & Latham, 2000) and hence maybe also tourists' willingness to contribute to environmental preservation (Doran et al., 2015). The term collective efficacy refers to "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (Bandura, 1997, p. 477). In a series of studies, Homburg and Stolberg (2006) found (Studies 3 and 4) that demand appraisal and collective efficacy were both positively related to problem-focused coping behaviour (e.g. seeking information about environmental problems), which in turn was positively related to pro-environmental behaviour (e.g. convincing others to act environmentally friendly). Interestingly, self-efficacy did not explain variance in problem-focused coping behaviour (Studies 1 and 2). A more recent investigation tested whether the two efficacy constructs (in addition to demand appraisal) explained problem-focused coping behaviour more effectively when considered separately or combined (Chen, 2015). It turned out that the model including only collective efficacy showed more explanatory power than two alternative models (including only self-efficacy or both efficacy constructs).

Studies indicate that calls for collective action are reoccurring themes in consumer discourses on sustainable tourism mobility (Higham et al., 2014; Miller et al., 2010). As far we know, only one study considered collective efficacy (as described above) for tourism

choices with different environmental implications. Doran et al. (2015) asked people to indicate whether they felt that tourists as a group can have a part in responding to global environmental challenges (i.e. collective efficacy beliefs). Results showed that people with strong collective efficacy beliefs were more likely to indicate their willingness to pay for environmental protection than those with weak collective efficacy beliefs. Thus, we assume that a strong sense of collective efficacy is characteristic for those tourists willing to make environmentally sustainable travel choices, and that these beliefs show stronger relations with intentions than self-efficacy (see also Chen, 2015).

*Hypothesis 4a:* Collective efficacy beliefs will be positively related to intentions to choose environmentally sustainable travel options.

*Hypothesis 4b:* Collective efficacy beliefs will explain more variance in intentions than self-efficacy beliefs.

The conceptual framework of this study closely resembles one used in a prior study that examined the role of social values, time perspective, and self-efficacy for explaining purchases of sustainable groceries (Hanss, 2012, Study 1). Our study adds to this research by (1) examining values specifically within an environmental context, (2) conceptualizing time perspective as a two-dimensional construct, and (3) investigating collective efficacy in addition to self-efficacy.

## Method

### Sample

A questionnaire was distributed among  $N = 385$  tourists (64% international, 36% domestic) who were at the time visiting Trafalgar Square in London, UK. Participants were between 18 and 89 years of age ( $M = 32.78$ ,  $SD = 14.21$ ) and 235 were female (61%). A total of 51 nationalities were represented in the sample, of which the largest groups of tourists came from the UK, Germany, Italy, the USA, and France. The vast majority were currently living in Europe (77%), followed by North America (10%), and Asia (7%). The remaining participants (6%) were currently living in South America, Oceania, or Africa.

### Procedure

Data collection was completed in the spring of 2014. Individuals were approached at the above-named location and asked whether they were currently on vacation; if that was the case, they were requested to participate in a study on environmental aspects of tourism. Anyone was eligible for participation as long as they reached 18 years of age and affirmed that they were on vacation. Individuals who met these criteria, and agreed to participate, were instructed to complete the questionnaire individually and return it after completion (which took approx. 15 minutes). They were further informed that their answers would be treated confidentially and that the collected data would be used for research purposes only. The return rate of completed questionnaires was approximately 85%. It is due to the procedures just described (e.g. availability to the researchers) that participants are considered a convenience sample.

## Questionnaire

Besides collecting socio-demographic information, the questionnaire (four-pages, paper-and-pencil, English language) included items inquiring about psychological variables including those addressed in this study.

### Intentions to choose environmentally sustainable travel options

Five items measured intentions to choose environmentally sustainable travel options in terms of favouring collective over private interests (see Table 1). Before presenting the items, participants were further instructed to imagine their next holiday trip. Principal component analysis (PCA; direct oblimin rotation) yielded one component (eigenvalue > 1) that accounted for 76.30% of the variance; Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy = .85; Barlett’s test of sphericity: approximate  $\chi^2(10) = 1414.36$ ,  $p < .001$ . Higher item scores were assumed to indicate stronger intentions.

### Value orientations

Value orientations were assessed by an instrument developed by De Groot and Steg (2007, 2008) and which is an adaption of the Schwartz value scale (e.g. Schwartz, 1992). It

**Table 1.** Summary of items measuring behavioural intentions and efficacy beliefs.

	Items	<i>n</i>	<i>M</i>	<i>SD</i>
BI1	I am willing to pay more for the trip if this helps protect the environment <sup>a</sup>	380	4.26	1.54
BI2	I will make an effort to stay at environmentally friendly accommodation <sup>a</sup>	379	4.71	1.53
BI3	I plan to purchase environmentally friendly tourism products although these may be more expensive <sup>a</sup>	380	4.33	1.55
BI4	I am willing to use environmentally friendly means of transportation although this might take more time <sup>a</sup>	379	4.79	1.67
BI5	I am willing to use environmentally friendly means of transportation although this might be more expensive <sup>a</sup>	378	4.42	1.60
SE1_d	As a tourist I can help protect the wildlife and natural habitats at my holiday destination <sup>b</sup>	385	5.07	1.56
SE2_d	By choosing environmentally friendly means of travelling, I can help reduce carbon emissions <sup>b</sup>	385	5.39	1.49
SE3_d	By buying local products (e.g. food), I can make an important contribution to preserve the cultural heritage at my holiday destination	384	5.58	1.49
SE4_i	By travelling in an environmentally friendly way, I can encourage others to do the same <sup>c</sup>	385	4.83	1.60
SE5_i	By not littering at my holiday destination, I can encourage others to do the same	384	5.40	1.58
SE6_i	By booking environmentally friendly accommodation, I can encourage others to do the same	384	4.66	1.66
CE1_d	I am confident that we as tourists can together contribute to solving the problem of pollution <sup>d</sup>	382	4.43	1.51
CE2_d	We as tourists can come up with creative ideas to help solve environmental problems effectively, even if the external conditions are unfavorable <sup>d</sup>	383	4.33	1.45
CE3_d	I am confident that we as tourists can together help mitigate global climate change <sup>b</sup>	383	4.21	1.53
CE4_i	I am confident that we as tourists can together encourage more and more people to travel in an environmentally friendly way <sup>b</sup>	381	4.60	1.52
CE5_i	By not littering at the holiday destination, we as tourists can encourage others to do the same	381	5.19	1.56
CE6_i	By booking environmentally friendly accommodation, we as tourists can encourage others to do the same	379	4.63	1.56

Notes: Each item was rated on a 7-point scale anchored at 1 (Don't agree) and 7 (Fully agree). BI = behavioural intentions; SE = self-efficacy; CE = collective efficacy; \_d = direct impact; \_i = indirect impact. Items without a subscript letter were designed on the bases of prior research (Doran et al., 2015; Hanss & Böhm, 2010; Homburg & Stolberg, 2006).

<sup>a</sup>Item from Doran and Larsen (2016) fitted to the questionnaire format.

<sup>b</sup>Item from Doran et al. (2015).

<sup>c</sup>Item from Doran et al. (2015) (adapted from Hanss & Böhm, 2010).

<sup>d</sup>Item from Doran et al. (2015) (adapted from Homburg & Stolberg, 2006).



measures how much importance people attach to egoistic values (i.e. social power, wealth, authority, being influential, and ambition; 5 items), altruistic values (i.e. equality, a world of peace, social justice, and being helpful; 4 items), and biospheric values (i.e. preventing pollution, respecting the earth, unity with nature, and protecting the environment; 4 items). As recommended by De Groot and Steg (e.g. 2008; see also Schwartz, 1992), participants rated the importance of each value in terms of being a guiding principle in their lives (−1 = Opposed to my values, 0 = Not important to 7 = Extremely important).

### *Time perspective*

Time perspective was assessed with the CFC-14 scale (Joireman et al., 2012), which is a revised version of the Consideration of Future Consequences (CFC) Questionnaire (Strathman et al., 1994). It measures concern for immediate consequences (CFC-Immediate; 7 items, e.g. “I only act to satisfy immediate concerns, figuring the future will take care of itself”) and concern for future consequences (CFC-Future; 7 items, e.g. “I consider how things might be in the future, and try to influence those things with my day to day behavior”). Following instructions outlined in Joireman et al. (2012), participants indicated to which degree each of the statements is characteristic of them (1 = Extremely uncharacteristic to 7 = Extremely characteristic). For empirical evidence demonstrating the predictive utility of the CFC-14 scale in an environmental context, see Khachatryan et al. (2013).

### *Efficacy beliefs*

Self-efficacy was measured by items that focused either on one’s direct (3 items) or on one’s indirect (3 items) impact on environmental preservation (see Table 1).<sup>2</sup> PCA (direct oblimin) revealed two components (eigenvalue > 1): one reflecting judgments about people’s direct impact (i.e. SE1\_d-SE3\_d) and one reflecting judgments about people’s indirect impact (i.e. SE4\_i-SE6\_i). Together, the two components explained 71.07% of the variance; KMO = .79; approximate  $\chi^2(15) = 899.18$ ,  $p < .001$ . Higher item scores were interpreted as a stronger sense of self-efficacy.

Collective efficacy was measured regarding tourists generally without providing any further specification (cf. Doran et al., 2015). Again, items focused either on tourists’ direct (3 items) or on their indirect (3 items) impact on environmental preservation (see Table 1). Unlike self-efficacy, only one component (eigenvalue > 1) was retained after these items were analysed in a PCA (direct oblimin), explaining 67.33% of the variance; KMO = .86; approximate  $\chi^2(15) = 1474.88$ ,  $p < .001$ . Higher item scores were interpreted as a stronger sense of collective efficacy.

### *Data analyses*

All analyses were run using IBM SPSS Statistics, v. 21. Index variables were computed as suggested in the literature (for value orientations, see De Groot & Steg, 2008; for time perspective, see Joireman et al., 2012) or according to the components retained from PCAs (for behavioural intentions and efficacy beliefs, see previous section). Means, standard deviations, and coefficient alphas of these variables are presented in Table 2. Bivariate correlations and multiple regressions were used for hypotheses testing. Cases with missing values were excluded listwise.

**Table 2.** Summary of index variables.

Index variables	<i>n</i>	<i>M</i>	<i>SD</i>	<i>α</i>
(1) Behavioural intentions	380	4.50	1.38	.92
(2) Values (egoistic)	383	3.70	1.52	.81
(3) Values (altruistic)	383	5.75	1.24	.81
(4) Values (biospheric)	383	5.30	1.42	.93
(5) CFC-Immediate	385	3.44	1.10	.84
(6) CFC-Future	385	5.00	0.91	.84
(7) Self-efficacy (direct)	385	5.35	1.21	.72
(8) Self-efficacy (indirect)	385	4.96	1.41	.85
(9) Collective efficacy	383	4.56	1.25	.90

Notes: Index variables were generated for participants who answered one (single score) or more (average score) items measuring the construct.

## Results

### *Bivariate correlations*

Altruistic values, biospheric values, direct self-efficacy, indirect self-efficacy, collective efficacy, and CFC-Future were all significantly and positively related to intentions to choose environmentally sustainable travel options. While egoistic values and CFC-Immediate were both negatively related to behavioural intentions, this association was only significant in the case of CFC-Immediate. A summary of these results is provided in [Table 3](#).

### *Multiple regressions*

#### *Value orientations and intentions to choose environmentally sustainable travel options*

Model 1 included the three value orientations indexes as independent variables (see [Table 4](#)). This model explained about 23% of the variance in behavioural intentions with biospheric values showing the strongest association (positive association, Hypothesis 1c supported), followed by egoistic values (negative association, Hypothesis 1a supported). Altruistic values were not significantly associated with behavioural intentions. Hypothesis 1b stating that altruistic values are positively related to behavioural intentions was therefore only supported by the results of the bivariate correlations and not by the results of the multiple regression analysis.

**Table 3.** Summary of bivariate correlations.

Index variables	1	2	3	4	5	6	7	8	9
(1) Behavioural intentions	–								
(2) Values (egoistic)	–.09	–							
(3) Values (altruistic)	.29***	.00	–						
(4) Values (biospheric)	.47***	.04	.58***	–					
(5) CFC-Immediate	–.25***	.25***	–.23***	–.21***	–				
(6) CFC-Future	.56***	.07	.35***	.41***	–.26***	–			
(7) Self-efficacy (direct)	.53***	–.01	.33***	.41***	–.21***	.42***	–		
(8) Self-efficacy (indirect)	.39***	–.01	.23***	.32***	–.13*	.29***	.50***	–	
(9) Collective efficacy	.56***	.11*	.15**	.40***	.02	.39***	.51***	.67***	–

Notes: Pearson correlations. *N* = 378.

\**p* < .05.

\*\**p* < .01.

\*\*\**p* < .001.

**Table 4.** Summary of multiple regressions.

Independent variables	Behavioural intentions (dependent variable)									
	Model 1		Model 2		Model 3		Model 4		Model 5	
	$\beta^a$	<i>t</i>	$\beta^a$	<i>t</i>	$\beta^a$	<i>t</i>	$\beta^a$	<i>t</i>	$\beta^a$	<i>t</i>
Values (egoistic)	-.11	-2.36*							-.13	-3.53***
Values (altruistic)	.03	0.54							-.02	-0.38
Values (biospheric)	.46	8.19***							.15	3.07**
CFC-Immediate			-.11	-2.54*					-.09	-2.30*
CFC-Future			.53	12.09***					.30	6.85***
Self-efficacy (direct)					.45	9.00***	.35	7.25***	.19	4.17***
Self-efficacy (indirect)					.17	3.52***	-.06	-1.08	-.09	-1.74
Collective efficacy							.43	7.65***	.37	6.80***
Constant	2.31	6.71***	0.99	2.32*	0.90	3.17**	0.49	1.82	-0.15	-0.37
Adjusted $R^2$	.23		.32		.30		.40		.53	
<i>F</i>	(3, 374) =		(2, 377) =		(2, 377) =		(3, 376) =		(8, 369) =	
	37.41***		90.44***		83.54***		83.70***		53.21***	

Notes:  $R^2 = .23$  for Model 1;  $R^2 = .32$  for Model 2;  $R^2 = .31$  for Model 3;  $R^2 = .40$  for Model 4;  $R^2 = .54$  for Model 5. VIF values for the models were all <3.

<sup>a</sup>Unstandardized coefficients for constant, standardized coefficients for independent variables.

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

### *Time perspective and intentions to choose environmentally sustainable travel options*

Model 2 entered the two indexes for time perspective as independent variables, explaining about 32% of the variance in behavioural intentions (see Table 4). People with strong CFC-Immediate were less likely to plan on choosing environmentally sustainable travel options than people with weak CFC-Immediate (Hypothesis 2a supported). People with strong CFC-Future were more likely to plan on choosing environmentally sustainable travel options than people with weak CFC-Future (Hypothesis 2b supported). CFC-Future was more strongly associated with behavioural intentions than CFC-Immediate.

### *Efficacy beliefs and intentions to choose environmentally sustainable travel options*

Hierarchical regression analysis explored the relative importance (i.e. variance explained by each independent variable) of self- and collective efficacy for explaining behavioural intentions.

In a first step, only direct and indirect self-efficacy beliefs were included as independent variables in the regression model (see Table 4, Model 3). This model explained about 30% of the variance in behavioural intentions. People with strong direct self-efficacy were more likely to plan on choosing environmentally sustainable travel options than people with weak direct self-efficacy. Likewise, people with strong indirect self-efficacy were also more likely to plan on choosing environmentally sustainable travel options than people with weak indirect self-efficacy. While this supports Hypothesis 3a stating that self-efficacy will be positively related to behavioural intentions, there was no support for Hypothesis 3b stating that indirect self-efficacy would explain more variance in behavioural intentions than direct self-efficacy.

In a second step, collective efficacy beliefs entered as an additional independent variable into the regression. This improved the model significantly,  $R^2_{\text{change}} = .09$ ,  $F(1, 376) =$

58.52,  $p < .001$ , explaining now about 40% of the variance in behavioural intentions (see Table 4, Model 4). People believing that tourists can together contribute meaningfully to solving environmental problems (i.e. strong collective efficacy) were more likely to plan on choosing environmentally sustainable travel options than people with weak collective efficacy (Hypothesis 4a supported). Moreover, collective efficacy explained more variance in behavioural intentions than direct self-efficacy (Hypothesis 4b supported).

### *Value orientations, time perspective, efficacy beliefs, and intentions to choose environmentally sustainable travel options*

Model 5 entered all independent variables simultaneously to determine their relative importance for explaining variance in behavioural intentions (see Table 4). This model explained approximately 53% of the variance in behavioural intentions. Compared to previous models (Models 1, 2, and 4), associations between the variables remained largely unchanged. Collective efficacy was most strongly associated with behavioural intentions, followed by CFC-Future, direct self-efficacy, egoistic values, biospheric values, and CFC-Immediate. As in Model 4, there was no significant association between indirect self-efficacy and behavioural intentions.

## Discussion

Our findings indicate that when biospheric values (i.e. concern for the biosphere as a whole including humans, animals, and nature) are included in an analysis of consumer choices in the tourism domain, these are more important in explaining intentions to choose environmentally sustainable travel options than altruistic values (i.e. concern for other people). While bivariate correlations showed that altruistic values were positively associated with behavioural intentions, this association did not remain significant when all three value clusters were investigated simultaneously in the multiple regressions. Egoistic values (i.e. concern for oneself), however, did explain significant proportions of variance in behavioural intentions, in addition to biospheric values. This is consistent with the study by Passafaro et al. (2015, Study 1) who found that the association between altruistic values and preferences for sustainable tourism choices became non-significant when analysed together with other personal values (for similar findings, see e.g. De Groot & Steg, 2010).<sup>3</sup>

Values are assumed to be relatively stable across time and contexts (Schwartz, 1992). In line with this view, Juvan and Dolnicar (2014) argued that interventions targeting a person's beliefs are more likely to succeed in causing behavioural change among tourists because these are subject to constant development and modification, whereas a person's values (once developed) remain largely unmodified. There are situations, however, where targeting values could still be useful. Research shows, for instance, that cognitively activating certain values (e.g. by priming) can promote behaviours congruent with these values (Biel, Dahlstrand, & Grankvist, 2005; Verplanken & Holland, 2002). De Groot and Steg (2009) suggested two ways through which the cognitive accessibility of biospheric and/or altruistic values might be increased. One way is to enhance knowledge about the importance of behaving in an environmentally sustainable manner for society and the environment. This may be done, for example, by using illustrative scenarios that demonstrate the potentially disruptive effects of global climate change if no mitigation actions are taken. Another way

is to stimulate processes of moralization, for instance, by making people personally commit to contributing their individual share in finding a solution to global environmental problems such as climate change.

Both time perspective aspects explained separate amounts of variance in intentions to choose environmentally sustainable travel options, in addition to egoistic and biopspheric values. This finding makes an important contribution to the current literature in that travel decisions may not only be related to value orientations, but also on how strongly one considers the immediate (i.e. CFC-Immediate) and future consequences of one's actions (i.e. CFC-Future). This is also similar to findings from other domains (e.g. preferences for bio-fuels; Khachatryan et al., 2013). In addition to this, we found that CFC-Future accounted for a considerably larger share of variance than CFC-Immediate. Research shows that environmental problems are often perceived as remote rather than as immediate threats (e.g. Gifford et al., 2009; Spence, Poortinga, & Pidgeon, 2012), which could be the reason behind why the strength of stated behavioural intentions was more sensitive to individual differences in CFC-Future than in CFC-Immediate.

One option for addressing those with strong CFC-Immediate could be temporal framing, which refers to describing future events as being proximal vs. distant in time (cf. Strathman et al., 1994). In two studies, Kees (2010) demonstrated that framing future risks as proximal (vs. distant) in time increased levels of risk perception and intentions to carry out risk-mitigating behaviours among people with a focus on immediate consequences but not among those with a focus on long-term future consequences. It seems plausible that temporal framing might help encourage environmentally sustainable travel choices among tourists who are less prone to considering the long-term consequences of their present behaviours. This view is also in line with findings from Spence et al. (2012), who investigated public perceptions of climate change. They found that global climate change is largely perceived as a temporally (and geographically) distant threat, and that reduced perceived temporal (and geographic) distance is associated with a stronger preparedness to reduce energy use in response to climate concerns.

While direct and indirect self-efficacy explained separate portions of variance in intentions to choose environmentally sustainable travel options, indirect self-efficacy was less strongly associated with behavioural intentions than direct self-efficacy. This was contrary to our hypothesis and to the findings of two prior studies that investigated different components of self-efficacy in connection with sustainable consumption in everyday life (Hanss & Böhm, 2010; Hanss et al., 2016). A possible explanation for this might be that travel decisions (as conceptualized in this study) are often made in private and are therefore less socially visible than everyday consumer choices, which were the focus in the aforementioned studies. Further work needs to be undertaken to determine the relative importance of each component in relation to whether the targeted behaviours take place privately or publicly. One suggestion is to investigate the different components of self-efficacy not only for travel decisions as such (e.g. how to get to a chosen destination) but also for consumer choices at the travel destination (e.g. buying locally produced food products).

Previous research has suggested a link between collective efficacy beliefs and individual responses to global environmental problems (Chen, 2015; Homburg & Stolberg, 2006). Indeed, participants in the present study seemed less willing to help mitigate environmental problems via their travel choices when they expressed doubts that tourists as a

whole can make an impact. Stated intentions to choose an environmentally sustainable travel option were sensitive to changes in collective efficacy, and this association proved to be stronger than in the case of self-efficacy. Similar findings have also been reported in the study by Doran et al. (2015), where neither self-efficacy nor attitudes showed a stronger association with stated willingness to pay for environmental protection than collective efficacy.

The evidence presented, especially that collective efficacy accounted for the biggest share of explained variance in intentions, prompts the question of how knowledge about individual differences in this regard could be of benefit to stakeholders in the tourism industry. Similar to self-efficacy, perceptions of collective efficacy can vary in level, strength, and generality depending on the domain they are applied to (Bandura, 1997). One possible application is therefore to identify market segments and behaviour domains in which tourists hold particularly low perceptions of collective efficacy, and, subsequently, to develop strategies to strengthen collective efficacy beliefs in these particular domains and target groups (for suggestions, see Doran et al., 2015).<sup>4</sup>

### **Limitations**

One limitation was that participants were recruited through convenience sampling, which limits the possibility to generalize our findings beyond the study sample. Future studies could investigate the hypothesized associations within other tourist populations, most preferably representative samples, in order to investigate the robustness of the present findings. Another limitation concerns the use of language in the questionnaire. It can be assumed that participants differed in their level of English language proficiency considering their different nationalities. Whether this affected responses to the questions is unknown. Finally, this study employed a cross-sectional design. What is now needed is research that substantiates the findings using experimental designs, which allows making claims about the directionality of associations. Extending the scope towards actual travel choices would bolster the practical implications of such research, considering that intentions to choose sustainable tourism products are not necessarily translated into corresponding behaviour (see e.g. Bergin-Seers & Mair, 2009).

### **Conclusion**

This study shed light on a set of psychological variables that have hitherto received little attention in the tourism literature. Overall findings showed that these variables, namely time perspective (i.e. CFC-Immediate, CFC-Future) and efficacy beliefs (i.e. direct self-efficacy, collective efficacy), showed stronger relations with intentions to choose environmentally sustainable travel options than variables dealing with value orientations (i.e. biospheric values, egoistic values). We made several suggestions to where these insights may provide guidance in respect to understanding the choices tourists make before and during their vacation (e.g. domain-specific assessment of collective efficacy).

However, individual factors (including psychological variables) are only one aspect that could play a role for explaining variation in a person's willingness to make sustainable tourism choices. As noted by Barr et al. (2010), contexts need to be taken into account when societal groups are targeted for behavioural change as "individuals frame their

behaviours according to the values and social norms associated with a particular space or place” (p. 480). It is a task for the research community to further examine the intersection between individual and contextual factors, and its implications for consumer choices in the tourism domain.

## Notes

1. While Hedlund (2011) used an aggregate measure of different aspects of vacation choice, Hedlund et al. (2012) analysed the assigned level of importance separately for each aspect.
2. One item dealt with the perceived ability to preserve the cultural heritage at one’s holiday destination (i.e. SE3\_d). We included this item to explore whether this aspect would be represented by a different facet of self-efficacy than the perceived impact on environmental outcomes (see also Hanss & Böhm, 2010). This was not the case.
3. De Groot and Steg (e.g. 2008) argued that biospheric and altruistic values do not explain unique amounts of variance in behavioural beliefs and intentions unless they are in conflict (which, according to them, is usually not the case in an environmental context).
4. It should be noted that the strength of the association between direct self-efficacy and behavioural intentions decreased as a result of adding collective efficacy into the model, and that the association between indirect self-efficacy and behavioural intentions became non-significant (see Table 4, Models 3 and 4). Albeit an investigation of this was not within the scope of this paper, it suggests an association between different efficacy beliefs that warrants further exploration.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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