

# The Relative Importance of Social and Personal Norms in Explaining Intentions to Choose Eco-Friendly Travel Options<sup>†</sup>

ROUVEN DORAN<sup>1\*</sup> and SVEIN LARSEN<sup>1,2</sup>

<sup>1</sup>Department of Psychosocial Science, University of Bergen, Bergen, Norway

<sup>2</sup>Norwegian School of Hotel Management, University of Stavanger, Stavanger, Norway

## ABSTRACT

Changes in current travel patterns are important in order to move towards a more sustainable future of tourism. This paper reports findings from a study ( $N=762$ ) investigating the relative importance of social and personal norms in explaining intentions to choose eco-friendly travel options. Personal norms showed the strongest association with behavioural intentions and further mediated the link between injunctive social norms and behavioural intentions. Overall findings indicate that social and personal norms seem both related to travel choices but that a particular emphasis should be given to the role of personal norms. Further implications of these findings are discussed. © 2015 The Authors. *International Journal of Tourism Research* Published by John Wiley & Sons Ltd.

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## INTRODUCTION

Changes in consumer patterns are an important element within the process of moving towards a more sustainable future of tourism (UNEP-UNWTO, 2012), particularly with regard to reducing the sector's contribution to global climate change (UNWTO-UNEP, 2008). One reason is that although the tourism industry widely uses marketing tools to create demand for their products, individual tourists still have the final say on where to go (Simpson *et al.*, 2008). This includes, for instance, choosing the geographic location of their holiday destination, the type of transportation used to get there, the type of accommodation they are staying at and the type of leisure activities they engage in. Accordingly, the study of factors that may influence choices of travel alternatives that are low in negative environmental impacts (hereafter referred to as eco-friendly travel options) helps to inform about the design and conduct of interventions seeking to promote behavioural change in the tourism domain.

Willingness to accept economic sacrifices has previously been linked with environmentally sustainable consumption (Hedlund, 2011; Thøgersen, 2000). This paper focuses on how normative beliefs may relate to choices of eco-friendly travel options even if this includes economic sacrifices (e.g. financial resources) and/or other personal inconveniences (e.g. time resources). One type of norm that has been shown to help explain behaviours that deviate from choices favouring personal interests is *social norms* (Biel and Thøgersen, 2007; Thøgersen, 2008). These are 'rules and standards that are understood by members of a group, and that guide and/or constrain social behavior without the force of

laws' (Cialdini and Trost, 1998, p. 152). Another type of norm that has been associated with decisions to act in a way that does not primarily serve personal interests is *personal norms* (Schwartz, 1977; Stern *et al.*, 1999). Personal norms differ from social norms in that they refer to internal standards concerning a particular behaviour rather than reflecting externally imposed rules (Kallgren *et al.*, 2000).

Although some investigators have studied normative beliefs within the context of environmentally sustainable tourism (e.g. Dolnicar and Grün, 2009; Mehmetoglu, 2010; Ong and Musa, 2011), there still is only limited knowledge about the role of such beliefs regarding travel choices that are linked to personal sacrifices. The present study adds to the existing literature by investigating (a) the relative importance of social and personal norms in explaining intentions to choose eco-friendly travel options and (b) the mediating role of personal norms. Implications for future research and destination management are discussed from a social psychological perspective.

## LITERATURE REVIEW

### Social norms

One common approach within the study of normative social influence distinguishes between descriptive and injunctive norms (Cialdini *et al.*, 1991, 1990). The rationale behind is that social norms can regulate behaviour in various ways and that their behavioural impact depends on whether they are focal (or salient) within the situation at hand (Kallgren *et al.*, 2000). Descriptive norms provide information about what appears to be the most appropriate behaviour based on the perception of what other people usually do (Cialdini *et al.*, 1990). For example, people visiting a tourist site may avoid littering when the site looks cleaned-up because it suggests that others have also been making an effort to avoid littering. Injunctive norms reflect beliefs about how one ought

\*Correspondence to: Rouven Doran, Department of Psychosocial Science, University of Bergen, Christiesgate 12, N-5015 Bergen, Norway.

E-mail: rouven.doran@psysp.uib.no

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to act based on expectations of what other people would morally approve or disapprove of (Cialdini *et al.*, 1990). For example, people visiting a tourist site may avoid littering when they believe that this type of behaviour would be sanctioned by other group members (e.g. social exclusion). The latter type of social norm is similar to the concept of subjective norms as proposed by the theory of reasoned action (Ajzen and Fishbein, 1980) or its extension the theory of planned behaviour (Ajzen, 1991). Both theories assume that perceived social pressures to behave in a certain way play their part in shaping behavioural intentions, which themselves constitute the major determinant of actual behaviour.<sup>1</sup> For the remainder of this paper, the two social norm constructs are referred as descriptive social norms and injunctive social norms respectively.

Experimental studies have shown that the provision of descriptive social norms can have powerful effects on willingness to engage in pro-environmental behaviour (e.g. Mair and Bergin-Seers, 2010; Reese *et al.*, 2014; Schultz *et al.*, 2008; for contrasting findings, see Bohner and Schlüter, 2014). One important study in this context comes from Goldstein *et al.* (2008), who investigated the effectiveness of environmental messages with regard to encouraging hotel guests to reuse their towels as part of a conservation programme. They found that people were more likely to reuse their towels when these messages included information indicating towel reuse among other hotel guests (Study 1) and that such effect was strongest when the information referred to guests staying in the same room (Study 2). This is also in line with studies showing that the provision of descriptive social norms can be an effective strategy, for instance, to reduce littering (Cialdini *et al.*, 1990), to encourage energy conservation (Schultz *et al.*, 2007) or to reduce household waste (Reese *et al.*, 2013). We therefore assume that the degree to which people think that others choose eco-friendly travel options (i.e. descriptive social norms) is positively related to own intentions to choose these options.

*Hypothesis 1:* Descriptive social norms are positively related to behavioural intentions.

We described earlier that injunctive social norms motivate behaviour through social expectations reflecting what is appropriate (or inappropriate). Many studies addressing this type of social norm in an environmental context have done so in relation with the theory of planned behaviour (e.g. Bamberg, 2003; Bamberg *et al.*, 2003; Gardner and Abraham, 2010). These studies usually show that subjective norms contribute to explaining variance in behavioural intentions in addition to attitudes towards the behaviour and perceived behavioural control. In the context of tourism, studies have shown that subjective norms predict intentions to choose a green hotel (Han *et al.*, 2010), willingness to pay for environmental conservation in urban parks (López-Mosquera *et al.*, 2014) and willingness to behave environmentally responsible at tourist sites (Ong and Musa, 2011). Accordingly, we assume that the degree to which people think that others expect them to choose eco-friendly

travel options (i.e. injunctive social norms) is positively related to own intentions to choose these options. Note, however, that there was no specific hypothesis formulated for the relative importance of each of the two types of social norms in explaining behavioural intentions.

*Hypothesis 2:* Injunctive social norms are positively related to behavioural intentions.

### Personal norms

Personal norms are attached to the self-concept and experienced as feelings of a moral obligation to perform a certain behaviour (Schwartz, 1973, 1977). Behavioural regulation is driven by internal rather than external processes (Kallgren *et al.*, 2000) with personal norms being at least to some extent derived from elaborate reasoning and reflection irrespective of social expectations (Thøgersen, 2009). It has been shown, for instance, that compliance with personal norms is associated with feelings of pride, while non-compliance with personal norms is associated with feelings of guilt (Onwezen *et al.*, 2013). In an environmental context, studies have shown that people who feel a moral obligation to protect the environment are also more likely to intend on reducing personal car use (Nordlund and Garvill, 2003), to intend on using public transportation (Bamberg *et al.*, 2007) or to purchase organic food products (Thøgersen and Ölander, 2006).

Several studies have investigated the relationship between personal norms and willingness to engage in pro-environmental behaviour while being on vacation (e.g. Dolnicar, 2010; Dolnicar and Leisch, 2008; Ong and Musa, 2011). For example, Dolnicar and Grün (2009) examined heterogeneity among tourists with regard to various pro-environmental behaviours. One of their findings was that people felt less of a moral obligation to protect the environment while being on vacation than at home. Mehmetoglu (2010) found that feeling a moral obligation to protect the environment was positively related to pro-environmental behaviour both on vacation and at home. Interestingly, personal norms were a stronger predictor than other psychological variables (e.g. personal values, environmental concern) or socio-demographic characteristics (e.g. age, educational level, political orientation). Additional support for the view that personal norms may influence pro-environmental behaviour among tourists comes from a field experiment conducted by Brown *et al.* (2010). They demonstrated that making personal norms salient (via persuasive communication) increases the likelihood of people picking up litter while visiting protected areas. Similarly, we assume that the degree to which people feel a moral obligation towards choosing eco-friendly travel options (i.e. personal norms) is positively related to own intentions to choose these options.

*Hypothesis 3:* Personal norms are positively related to behavioural intentions.

It has previously been argued that personal norms can be seen in some way as being internalized social norms (e.g. Thøgersen, 2006, 2009). Empirical support for this view stems mainly from cross-sectional studies investigating the relative importance of different psychological variables in explaining pro-environmental

<sup>1</sup>Subjective norms (such as conceptualized in the theory of reasoned action or the theory of planned behaviour) are commonly viewed as some form of injunctive norm (e.g. Lapinski and Rimal, 2005). For a different perspective, see e.g. Park and Smith (2007).

behaviour (for two recent meta-analyses, see Bamberg and Möser, 2007; Klöckner, 2013). One common finding in these studies is that the strength of social norms as a predictor of behavioural intentions (or actual behaviour) is mediated through personal norms. Behavioural domains where controlling for personal norms attenuated the effects of social norms include paying for environmental conservation (López-Mosquera *et al.*, 2014), purchasing organic food products (Thøgersen and Ölander, 2006), household recycling (Thøgersen, 2009), and travel-mode choice (Klöckner and Blöbaum, 2010). In a tourism context, Ong and Musa (2011) found that subjective norms predicted environmentally responsible behaviour among recreational divers but that the strength of this relationship decreased when personal norms were added as a predictor. Further analyses showed that the effect of subjective norms on environmentally responsible diving behaviour was indeed mediated through personal norms. Likewise, we assume that personal norms contribute to explain (i.e. mediate) the relationship between injunctive social norms and intentions to choose eco-friendly travel options.

*Hypothesis 4:* Personal norms mediate the relationship between injunctive social norms and behavioural intentions.

## METHOD

### Participants

Participants ( $N=762$ ) represent a convenience sample of international (82%) and domestic (18%) tourists visiting Queenstown, New Zealand. Data were collected at one of the most popular tourist sites in the town centre (i.e. quayside). Potential participants were approached and asked if they would be willing to participate in a study on travelling. Those who agreed to participate were handed out a self-administered paper-and-pencil questionnaire. There were no financial incentives, and questions concerning research aims were answered immediately on-site. The age ranged from 18 to 81 ( $M=36.65$ ,  $SD=17.12$ ) with gender distributions being roughly equal (54% female and 46% male).<sup>2</sup>

### Questionnaire design

The four-page questionnaire was administered in English only. In addition to some socio-demographic items, participants were asked to answer items with regard to various aspects of travel experiences. However, this paper reports exclusively on findings concerning the role of social and personal norms in explaining intentions to choose eco-friendly travel options.

A set of five different items was used to measure intentions to choose eco-friendly travel options (Table 1). Examples of behavioural aspects addressed in this study include paying more for a trip if this helps to protect the environment or purchasing environmentally friendly tourism products although this might be more expensive. One component with an eigenvalue  $> 1$  was retained when these items entered a principal component analysis (direct oblimin, listwise deletion):

<sup>2</sup>Individuals who filled out the questionnaire but were under the age of 18 at the point of the data collection were excluded beforehand (and are thus not listed as participants in this study).

Kaiser–Meyer–Olkin measure of sampling adequacy=0.81; Bartlett's test of sphericity, approximate  $\chi^2(10)=2111.32$ ; and  $p < 0.001$ . This component explained 68.47% of the variance in behavioural intentions. An index variable was computed by averaging participants' responses to all five items ( $\alpha=0.88$ ) with higher scores indicating stronger intentions.

While items measuring social and personal norms addressed similar behavioural aspects, each set of items focused on one specific norm type (Table 1). All items first entered a principal component analysis (direct oblimin, listwise deletion) in order to explore the correlational structure of the norm constructs. These results are reported in Table 2. In accordance with the literature (e.g. Thøgersen, 2006), three different components could be distinguished that explained 82.84% of the variance: Kaiser–Meyer–Olkin measure=0.92; approximate  $\chi^2(105)=12641.94$ ; and  $p < 0.001$ . Index variables were computed for each component by averaging participant's responses to items with high factor loadings (for descriptive social norms,  $\alpha=0.95$ ; for injunctive social norms,  $\alpha=0.96$ ; and for personal norms,  $\alpha=0.94$ ). Higher scores indicate stronger perceived norms.

### Data handling and analysis

Index variables were computed if participants answered at least one item measuring the construct of interest. Bivariate and multivariate analyses were conducted with the statistical package IBM SPSS Statistics, Version 21 (IBM Corp., Armonk, NY). Mediation analysis was performed using the PROCESS macro developed for SPSS, Release 2.11 (for additional information, see Hayes, 2013). Missing values on the index variables were handled using listwise deletion. The relative strength of associations with behavioural intentions was examined using Williams's *t*-test (1959), which is implemented in the computational tool cocor (Diedenhofen and Musch, 2014). This procedure has been recommended for comparing correlation coefficients from the same sample with one variable in common (Weaver and Wuensch, 2013).

## RESULTS

### Associations between social norms, personal norms and behavioural intentions

In order to explore associations between the different norm constructs and intentions to choose eco-friendly travel options, we first inspected bivariate correlations presented in Table 3. While all three norm constructs were positively and significantly associated with behavioural intentions, there were differences concerning the strength of these associations. Behavioural intentions were significantly stronger associated with personal norms than with the two social norm constructs; for descriptive social norms:  $t(735)=8.04$ ,  $p < 0.001$ , two-tailed; for injunctive social norms:  $t(735)=9.25$ ,  $p < 0.001$ , two-tailed. No significant difference was reported for associations between behavioural intentions and the two social norm constructs:  $t(735)=1.21$ ,  $p=0.226$ , two-tailed. Additionally, there were positive and significant associations among all norm constructs.



Table 1. Instructions and items to measure index variables

	Instructions and items	<i>n</i>	<i>M</i>	<i>SD</i>
	Some questions about your opinions towards environmental aspects while travelling:			
	How likely is it that you would ...			
BI1	... pay more for a trip if this helps to protect the environment <sup>a</sup>	754	4.17	1.52
BI2	... make an effort to stay at environmentally friendly accommodation when travelling <sup>a</sup>	753	4.69	1.51
BI3	... purchase environmentally friendly tourism products although this might be more expensive <sup>a</sup>	752	4.10	1.52
BI4	... use environmentally friendly means of transportation although this might take more time <sup>a</sup>	753	4.21	1.62
BI5	... use environmentally friendly means of transportation although this might be more expensive <sup>a</sup>	752	3.79	1.53
	How many of the people who are important to you ...			
DN1	... pay more for a trip if this helps to protect the environment <sup>b</sup>	751	3.42	1.44
DN2	... make an effort to stay at environmentally friendly accommodation when travelling <sup>b</sup>	751	3.66	1.49
DN3	... purchase environmentally friendly tourism products although this might be more expensive <sup>b</sup>	750	3.54	1.48
DN4	... use environmentally friendly means of transportation although this might take more time <sup>b</sup>	750	3.53	1.49
DN5	... use environmentally friendly means of transportation although this might be more expensive <sup>b</sup>	750	3.36	1.48
	Most people who are important to me think that one ought ...			
IN1	... to pay more for a trip if this helps to protect the environment <sup>c</sup>	744	3.84	1.44
IN2	... to make an effort to stay at environmentally friendly accommodation when travelling <sup>c</sup>	744	3.99	1.45
IN3	... to purchase environmentally friendly tourism products although this might be more expensive <sup>c</sup>	744	3.85	1.43
IN4	... to use environmentally friendly means of transportation although this might take more time <sup>c</sup>	744	3.93	1.50
IN5	... to use environmentally friendly means of transportation although this might be more expensive <sup>c</sup>	744	3.70	1.47
	I do feel a moral obligation ...			
PN1	... to pay more for a trip if this helps to protect the environment <sup>d</sup>	753	4.23	1.47
PN2	... to make an effort to stay at environmentally friendly accommodation when travelling <sup>d</sup>	753	4.47	1.46
PN3	... to purchase environmentally friendly tourism products although this might be more expensive <sup>d</sup>	753	4.20	1.50
PN4	... to use environmentally friendly means of transportation although this might take more time <sup>d</sup>	753	4.40	1.56
PN5	... to use environmentally friendly means of transportation although this might be more expensive <sup>d</sup>	753	4.08	1.53

Note: BI, behavioural intentions; DN, descriptive social norms; IN, injunctive social norms; PN, personal norms.

<sup>a</sup>Measured on a seven-point scale anchored at 1 (Very unlikely) and 7 (Very likely).

<sup>b</sup>Measured on a seven-point scale anchored at 1 (None) and 7 (All).

<sup>c</sup>Measured on a seven-point scale anchored at 1 (No, definitely not) and 7 (Yes, definitely).

<sup>d</sup>Measured on a seven-point scale anchored at 1 (Strongly disagree) and 7 (Strongly agree).

Table 2. Items and factor loadings from principal component analysis with oblique rotation for norm measures

Items	Factor loading <sup>a</sup>			Communality
	1	2	3	
DN1	0.01	0.00	<b>0.90</b>	0.82
DN2	-0.05	0.02	<b>0.93</b>	0.83
DN3	0.07	-0.01	<b>0.86</b>	0.82
DN4	-0.03	0.01	<b>0.92</b>	0.83
DN5	0.02	-0.01	<b>0.92</b>	0.86
IN1	<b>0.93</b>	0.01	-0.02	0.84
IN2	<b>0.88</b>	0.02	0.03	0.82
IN3	<b>0.93</b>	-0.02	0.01	0.86
IN4	<b>0.92</b>	0.02	-0.01	0.85
IN5	<b>0.93</b>	-0.01	0.02	0.88
PN1	0.02	<b>0.89</b>	-0.04	0.77
PN2	-0.03	<b>0.90</b>	0.02	0.80
PN3	0.04	<b>0.89</b>	-0.02	0.82
PN4	-0.02	<b>0.90</b>	0.01	0.79
PN5	0.00	<b>0.90</b>	0.05	0.85

Note: DN, descriptive social norms; IN, injunctive social norms; PN, personal norms.

<sup>a</sup>Boldface indicates highest factor loadings.

### Relative importance of social and personal norms in explaining behavioural intentions

In order to explore the relative importance (i.e. proportion of explained variance) of social and personal norms in explaining intentions to choose eco-friendly travel options, we conducted a hierarchical regression analysis in which

Table 3. Means, standard deviations, and intercorrelations for index variables

Index variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Behavioural intentions	4.19	1.28	—			
2. Descriptive social norms	3.51	1.35	0.52***	—		
3. Injunctive social norms	3.86	1.35	0.49***	0.68***	—	
4. Personal norms	4.28	1.36	0.71***	0.59***	0.59***	—

Note: Pearson correlations.

*N* = 738

\*\*\**p* < 0.001, two-tailed.

behavioural intentions entered as the dependent variable (Table 4). An inspection of variance inflation factors (from 1.72 to 2.08) and tolerance statistics (from 0.48 to 0.58) indicated that multicollinearity was no concern.

In a first step (Table 4, Step 1), descriptive and injunctive social norms were entered as independent variables. Together, the regression model including the two social norm constructs explained 30% of the variance in behavioural intentions. Although there was a relatively strong correlation between descriptive and injunctive social norms (Table 3), each explained separate amounts of variance in behavioural intentions (positive association). This result supports and states that social norms are positively related to behavioural intentions. In a second step (Table 4, Step 2), personal norms were entered as an additional independent variable:  $R^2_{\text{change}} = 0.21$ ;  $F(1, 734) = 322.03$ ,  $p < 0.001$ . Together, the

Table 4. Summary of hierarchal regression analysis

Independent variables	Behavioural intentions			
	Step 1		Step 2	
	$\beta^a$	$t$	$\beta^a$	$t$
Descriptive social norms	0.35	8.30***	0.14	3.69***
Injunctive social norms	0.25	5.93***	0.04	1.01
Personal norms			0.60	17.95***
Constant	2.12	17.05***	1.17	10.08***
Adjusted $R^2$	0.30		0.51	
$F$	(2, 735) = 160.05***		(3, 734) = 260.64***	

Note:  $R^2 = 0.30$  for Step 1;  $R^2 = 0.52$  for Step 2.

<sup>a</sup>Unstandardized regression coefficient ( $B$ ) for constant, standardized regression coefficient ( $\beta$ ) for all independent variables.

\*\*\* $p < 0.001$ .

regression model including all three norm constructs explained 51% of the variance in behavioural intentions; with personal norms explaining variance in addition to social norms (positive association). This result supports stating that personal norms are positively related to behavioural intentions. While descriptive social norms still explained a significant proportion of the variance in behavioural intentions, the relationship between injunctive social norms and behavioural intentions was non-significant when it was also controlled for personal norms. Thus, injunctive social norms were positively and significantly associated with behavioural intentions only when looking at the bivariate correlations and the regression model that included the two social norms constructs.

### Personal norms as a mediator for the relationship between social norms and behavioural intentions

In order to test the hypothesis that personal norms contribute to explain (i.e. mediate) the relationship between injunctive social norms and intentions to choose an eco-friendly travel option, we conducted a mediation analysis using a bootstrapping method (Hayes, 2013). As recommended in the literature (e.g. Preacher and Hayes, 2008), a total of 5000 bootstrap samples and 95% bias corrected and accelerated confidence intervals (BCa CI) was used. Injunctive social norms entered as the independent variable, behavioural intentions as the dependent variable and personal norms as the mediating variable. Figure 1 summarizes that there was a significant indirect effect of injunctive social norms on behavioural intentions through personal norms,  $B = 0.36$ , 95% BCa CI [0.31, 0.42]. This represents a relatively large effect,  $\kappa^2 = 0.37$ , 95% BCa CI [0.32, 0.41] and further supports stating that personal norms mediate the relationship between injunctive social norms and behavioural intentions.

## DISCUSSION

Initial findings from bivariate analyses showed that all three norm constructs were positively related to behavioural intentions. People were more likely to plan on choosing an eco-friendly travel option when they also believed that others act in similar ways (i.e. descriptive social norms), that

important others expect them to (i.e. injunctive social norms) and that they have a moral obligation to do so (i.e. personal norms). Additional findings from multivariate analyses showed that only descriptive social norms and personal norms contributed to explain variance in behavioural intentions when all three norm constructs entered as independent variables, and that personal norms further mediated the effect of injunctive social norms on behavioural intentions.

Previous research investigating the role of descriptive social norms within the context of tourism often focused on low-cost pro-environmental behaviour (i.e. behavioural choices that involve low personal costs). This is exemplified by studies showing that providing descriptive information about the behavioural choices of others increases towel reuse among hotel guests (e.g. Goldstein *et al.*, 2008; Mair and Bergin-Seers, 2010). The present paper aimed at extending the scope of the investigation towards high-cost pro-environmental behaviour (i.e. behavioural choices that involve high personal costs). Participants were therefore asked to indicate how likely it is that they will choose an eco-friendly travel option (e.g. transportation and accommodation), even though this may lead to personal inconveniences such as being more time consuming or more expensive. Our findings showed that descriptive social norms were also positively related to high-cost pro-environmental behaviour. While keeping in mind that the analysed data were cross-sectional (which is insufficient to establish causal claims), one may speculate that in situations where changing the structural characteristics of the situation (e.g. costs and benefits) is either difficult or not possible, providing descriptive information about others' behavioural choices may be an alternative approach to encourage eco-friendly travelling.<sup>3</sup>

Experimental studies have shown that congruence between different types of social norms positively affects personal efforts to engage in pro-environmental behaviour (e.g. Bator *et al.*, 2014; Smith and Louis, 2008; Smith *et al.*, 2012). In two separate experiments, Smith *et al.* (2012) examined interactions between descriptive and injunctive norms with regard to their impact on intentions to engage in pro-environmental behaviour. They found that people were more likely to show intentions to engage in energy conservation efforts when both norms were aligned rather than unaligned (Experiment 1) and that this effect did not vary between Western (i.e. UK) and non-Western (i.e. China) cultures (Experiment 2). In a different context, Schultz *et al.* (2007) found that providing information concerning the average neighbourhood usage led to an increase in energy savings among households that were initially high in energy consumption and to a decrease in energy savings among those that were initially low in energy consumption. Interestingly, adding an injunctive message component eliminated this 'destructive boomerang effect' (Schultz *et al.*, 2007, p. 432). Forthcoming research could test whether similar interaction effects are present when normative messages are used to communicate the urgency of helping to mitigate environmental problems associated with tourism. It could be, for instance, that

<sup>3</sup>This view corresponds to the idea 'that information about what others do might initiate reflections about right and wrong, about fairness, and about how meaningful it is to do your share' (Thøgersen, 2006, p. 250).

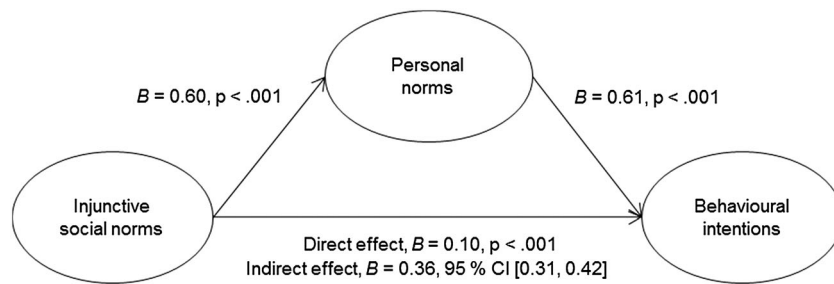


Figure 1. Mediation model for injunctive social norms as a predictor of intentions to choose eco-friendly travel options (abbreviated as behavioural intentions) mediated by personal norms. The confidence intervals (CIs) for the indirect effects are BCa bootstrapped CI based on 5000 samples.

the aforementioned boomerang effect occurs when people receive information suggesting that there is already a substantial number of tourists behaving in a pro-environmental manner – and falsely conclude that there is thus no need to take further action.

Feeling a moral obligation to protect the environment (i.e. personal norms) showed the strongest association with intentions to choose eco-friendly travel options. In addition, personal norms also contributed to explain variance in behavioural intentions over and above social norms. The norm activation model (Schwartz, 1977) suggests that, along with situational activators (i.e. awareness of need, situational responsibility, efficacy and ability), there are two personality trait activators that influence the formation of personal norms: being aware about the potential outcomes of not engaging in the behaviour (i.e. awareness of consequences) and feeling some sense of personal responsibility with regard to engaging in the behaviour (i.e. ascription of responsibility). Informational campaigns could target one or both of these factors in order to strengthen personal norms, which in turn, may then convert into decisions that favour eco-friendly over conventional alternatives. For example, efforts could be made to illustrate the potentially devastating effects for the natural environment (e.g. loss of biological diversity and contribution to global climate change) while simultaneously emphasizing the personal responsibility of every tourist to help mitigate these problems (for an example of how targeting situational and personality trait activators of personal norms may encourage pro-environmental behaviour, see e.g. Harland *et al.*, 2007, Study 2).

Supporting our initial hypothesis, the strength of the relationship between injunctive social norms and intentions to choose eco-friendly travel options was reduced when it was also controlled for personal norms. Additional analysis indicated that this was due to personal norms mediating the effect of injunctive social norms on behavioural intentions. These findings support the view that expectations of important referents may not only influence behavioural intentions directly but also indirectly through their internalization as personal norms. First, informational campaigns could communicate injunctive social norms (indicating approval or disapproval of a specific targeted behaviour) in an attempt to influence decisions in favour of eco-friendly travel options; and hence, increasing the situational salience of these norms (see Kallgren *et al.*, 2000). Second, informational campaigns may communicate social norms in an attempt to initiate and/or amplify their internalization as personal norms. The

latter seems to be of particular importance when considering that internalized norms are more strongly embedded with a person's cognitive structure and hence more likely to influence pro-environmental behaviour (Thøgersen, 2009). Future studies, in particular those incorporating experimental designs, are needed to further explore the processes through which communicating social norms may result in stronger personal norms towards helping to mitigate environmental problems associated with tourism.

Personal norms explained a relatively large proportion of variance in intentions to choose eco-friendly travel options; an effect that also remained stable when controlling for social norms. This finding highlights the importance of considering the moral component of eco-friendly travelling, but it also raises the question whether a narrower conceptualization of personal norms might have been useful. Thøgersen (2006), for instance, found empirical support for the distinction between two types of personal norms that differ with respect to their level of internalization and integration into the self, as well as with respect to their motivational components. One type that is only superficially internalized (i.e. introjected norms) and another type that is partly or fully integrated within the self-concept (i.e. integrated norms). While introjected norms motivate behaviour primarily through the anticipation of affective states such as guilt or pride, integrated norms can motivate behaviour without being enforced by negative affect or ego-enhancement (Thøgersen, 2006). Because our study did not include measures that allow distinguishing between the two, conclusions concerning their relative importance in explaining behavioural intentions among tourists remain unclear. By clarifying the role of each type in future research, one may gain a better understanding of how personal norms can best be addressed in informational campaigns seeking to promote choices of eco-friendly travel options.

## LIMITATIONS AND FUTURE DIRECTIONS

There are some methodological limitations that may be addressed in future research. First, pro-environmental intentions and pro-environmental behaviours are not perfectly correlated (e.g. Bamberg and Möser, 2007). This implies that associations between normative beliefs and actual behaviour could be somewhat weaker than expressed by the self-reported behavioural intentions measured in this study. Future studies investigating the relationship between perceived



norms and travel choices might overcome this limitation by including additional behavioural measures such as on-site observations (e.g. choice of transportation means at the destination) and/or self-reports of past behaviour (e.g. choice of travel mode to reach the destination).

Second, this study used cross-sectional data to investigate the relative importance of social and personal norms in explaining variance in behavioural intentions. As mentioned earlier, this type of data does not allow testing for causality. Experimental studies are still needed to test whether making normative beliefs salient influences behavioural intentions, which in turn, may then be converted into decisions in favour of eco-friendly travel options. This could be done, for instance, through investigating whether receiving information about the behaviour of others (e.g. the percentage of tourists who accepted additional costs in order to protect the environment) affects people's own willingness to choose eco-friendly travel options.

Third, this study measured social norms by asking participants to indicate to which degree people who are important to them choose (i.e. descriptive social norms) or expect them to choose (i.e. injunctive social norms) eco-friendly travel options. However, the behavioural impact of social norms may differ with regard to the characteristics of the reference group. Smith and Louis (2008), for instance, found that providing normative information influences willingness to act when this information resembles beliefs about an in-group (Study 1) but not when reflecting beliefs about an out-group (Study 2). Developing a further understanding of which reference groups have the strongest normative social influence on travel choices seems therefore important. Future studies could explore the role of different reference groups (e.g. family and friends, local residents at the destination and other tourists at the destination) and their relative importance in influencing travel choices regarding issues of environmental sustainability.

Fourth, previous research has shown that (in addition to normative beliefs) pro-environmental behaviour may be guided by a wide range of self-interest and pro-social motives (Bamberg and Möser, 2007). Normative beliefs are thus only one factor that could influence choices of eco-friendly options, and additional research is needed to investigate such beliefs in relation to other variables involved in the formation of pro-environmental behaviour.

## CONCLUSION

This study adds to the existing literature by providing insights into how individual differences in normative beliefs may relate to travel choices. It is among the first studies to examine the role of normative beliefs with regard to travel choices that are associated with personal sacrifices (e.g. paying more for eco-friendly accommodation). Overall findings suggest that choosing an eco-friendly travel option may depend on externally derived social norms (i.e. descriptive and injunctive) and, maybe even more so, on feeling a moral obligation towards choosing such options (i.e. personal norms). The importance of personal norms as an exploratory variable was demonstrated by the finding that personal norms

(a) showed the strongest association with behavioural intentions and (b) mediated the link between injunctive social norms and behavioural intentions. An important area for future studies is to identify factors that influence the formation of personal norms and to examine how interventions can target these beliefs explicitly within the context of tourism.

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