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TITLE:  
INTENTIONS TO CHOOSE ECO-FRIENDLY TRAVEL OPTIONS:  
THE ROLE OF SOCIAL AND PERSONAL NORMS

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## Abstract

It is important to change current travel patterns in order to move towards a more sustainable future of tourism. To that aim, this study replicates and extends a study by Doran and Larsen, which examined the relative importance of social and personal norms in explaining intentions to choose eco-friendly travel options. The current study reports findings from a similar questionnaire on the role of social and personal norms in explaining the intentions to choose eco-friendly travel options. In addition, it extends the research in order to develop a further understanding of which reference groups have the strongest normative social influence on travel choices.

Using convenience sampling, data were collected from tourists (N = 319) visiting Iceland. The overall findings supported prior research that social and personal norms seem both to be related to travel choices. Personal norms did make the strongest contribution to explaining behavioral intentions and further mediated the effects of injunctive social norms on those intentions, therefore, emphasizing the key role of personal norms.

Three reference groups were tested to find out which one had the most normative influence on eco-friendly travel choices: “other tourists at localized destination”, “other tourists visiting this country” and “other tourists worldwide”. Previous findings indicate that normative information about a close referent would be the most influential, however, the results did not support this statement. Hence, a comprehensive understanding of which reference groups have the strongest normative social influence on travel choices is still needed.

The findings in this study imply that by including normative information is a promising way to encourage people to choose eco-friendly travel options, both in informational campaigns and for tourism managers and leaders.

*Keywords: Environmentally friendly, tourism, social norms, injunctive norms, descriptive norms, personal norms, behavioral intentions, eco-friendly travel options, reference group*

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## Foreword

It is important to change current travel pattern in order to move towards a more sustainable future of tourism. Hence, I decided to replicate and extend a study that investigated the relative importance of social and personal norms in explaining intentions to choose eco-friendly travel options.

I would like to thank my advisor, Torvald Øgaard for his guidance and advices throughout my thesis. I would also like to thank Gray Line Iceland for allowing be to approach tourists in their Airport Express bus, as well the owners of the restaurant Papa's Pizza in Grindavík for allowing be to hand out my questionnaire to tourists.

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# 1 Introduction

One of the critical problems modern society faces is the fact that many behaviors that tend to serve our own well-being are harmful to the environment (Bamberg, Hunecke & Blöbaum, 2007). We have to a large extent shaped the planet to our perceived needs and comfort and by doing so we have made full use of and derived benefit from many of the world's natural resources, pushed other species out of the way and left the by-products of our efforts to make our lifestyle better (Gifford & Nilsson, 2014). However, majority of consumers have realized over the years that their buying behavior had a direct effect on many ecological problems (Laroche, Bergeron & Barbaro-Forleo, 2001). Consumer's willingness to engage in greener consumption behaviors requires developing more environmentally sustainable consumption and production systems. The action of pursuing sustainability involves environmental technologies, economic policies, production systems and social initiatives, however, their input will be undermined without changes in our behaviors and consumption patterns (Peattie, 2010). Global tourism industry leaders are, moreover becoming fully aware of that sustainable tourism development is important to the preservation of indigenous cultures and conservation of nature (Hassan, 2000). In order to move towards a more sustainable future of tourism, changing current travel pattern is therefore important (Doran & Larsen, 2016).

The preceding article by Doran and Larsen (2016) discussed a study of the relative importance of social and personal norms in explaining intentions to choose eco-friendly travel options based on tourists visiting Queenstown, New Zealand. Their study made use of a questionnaire in which respondents were asked to answer questions with regard to various aspects of travel experience (Doran & Larsen, 2016). In this study, results will be presented from a similar questionnaire concerning the role of social and personal norms in explaining the intentions to choose eco-friendly travel options. The purpose of this study is both to replicate the original study done in New Zealand, and extend it in order to develop a further



understanding of which reference groups have the strongest normative social influence on travel choices. As the behavioral impact of social norms may differ among the characteristics of the reference group, this was one of the limitations of Doran and Larsen's (2016) study, that is, they did not discover which reference groups have the most normative social influence on travel choices. Hence, in this study a distinction will be made between the reference groups that may have normative social influence on travel choices.

Doran and Larsen (2016, p. 165) suggested 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)". Hence, a better understanding of how social and personal norms affect the intentions to choose eco-friendly travel options may be useful in informational campaigns seeking to promote choices of eco-friendly travel options (Doran & Larsen, 2016). The reason for choosing this subject is to see if people are more likely to choose an eco-friendly travel option if they believe that others act in similar way (i.e. descriptive social norms), others expect them to (i.e. injunctive social norms) and if they have a moral obligation to do so (i.e. personal norms) (Doran & Larsen, 2016).

This study will focus on how normative beliefs might relate to choices of eco-friendly travel options, even though it will include economic sacrifices (e.g. financial resources) and/or other personal inconveniences (e.g. time resources) as was done in Doran and Larsen's (2016) study. In fact, willingness to accept economic sacrifices in order to protect the environment has previously been linked with the intention to purchase ecologically sustainable tourism alternatives (Hedlund, 2011; Iwata, 2002; Davis, Le & Coy, 2011).

As this thesis is based on the study done in New Zealand by Doran and Larsen (2016), the choices of theories, research questions, data collection and analysis will reflect more or less on previous work.

The research questions for this study will be as following:

- R1: How are normative beliefs related 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)?
- R2: Which reference groups have the most normative social influence on travel choices?

## **1.1 Structure of the thesis**

The first part of the thesis presents relevant literature and related empirical findings. The hypothesis are formulated to address the research problem and then summarized, and the conceptual models that will be applied presented.

The methodology part explains the design of the research, choices of measurements and sample, and how the actual data is collected and analyzed.

The results describe the data collection and obtained sample, measures are validated and main findings described. The discussion consists of a critical view of the results and the strengths and limitations of the research. Finally, the conclusion will sum up the findings.

## 2 Literature review

In social dilemmas, social norms in general tend to support cooperation, occasionally in large-scale dilemmas involving environmental problems (Biel & Thøgersen, 2007). Cialdini and Trost (1998, p. 152) define social norms as “rules and standards that are understood by members of a group, and that guide and/or constrain social behavior without the force of laws”. Furthermore, Elster (1989, p. 99) indicates that for norms to be social, “they must be shared by other people and partly sustained by their approval and disapproval”. She also suggests that social norms need to be distinguished from other related phenomena for example, moral norms (Elster, 1989). The moral approach, suggests that pro-environmental behavior is possible if people feel a moral responsibility to perform the behavior. People construct self-expectations regarding prosocial behavior, but these expectations are called personal norms that are experiences such as feelings of moral obligation (Harland, Staats & Wilke, 2007).

According to the theory of normative conduct, norms can affect human actions and that at least three distinct types of norms can be effective in this regard. First are the social norms of the descriptive kind, which guides people via perception of how most people would behave. Second are the social norms of injunctive kind, which guides people via the perception of how most people would approve or disapprove of one’s actions. Third are personal norms that guide people’s behavior via the perception of how one would approve or disapprove of one’s own actions (Cialdini, Kallgren & Reno, 1991).

The next sections contain a discussion and clarification of the concepts that are used for this study, review of the chosen theory and choices of conceptual model and hypotheses.

### 2.1 Social norms

Cialdini, Reno and Kallgren’s (1990) theory of normative conduct (norm-focus theory) indicated that norms have considerable impact on human action. Distinguishing between

descriptive and injunctive social norms is one common approach within the study of normative social influence as the impact on human actions can only be satisfactorily recognized by separating these two types of norms (Cialdini et al., 1990).

First, there has been quite a criticism in the utility of normative explanations but these criticisms have been positive according to Cialdini et al. (1990) in pointing out problems that must be solved before we have gained confidence in its usefulness. One such problem is the definition of norms, and when normative influence on behavior is considered, it is important to distinguish between the is (descriptive) and the ought (injunctive) meaning of social norms (Cialdini et al., 1990) as was mentioned above. There are clear and distinct theoretical meanings for descriptive and injunctive norms, and even though they may often be strongly correlated phenomena, they are not the same thing (Thøgersen, 2008).

The injunctive meaning of norms “refers to rules or beliefs as to what constitutes morally approved and disapproved conduct” (Cialdini et al., 1990, p. 1015). Creating and maintaining meaningful social relationships with others is what humans are essentially motivated to do. The concept of injunctive norms implies that if individuals take part in behavior of which others approve, others will approve of them, too (Cialdini & Goldstein, 2004).

Descriptive norms however, refer to the beliefs about what is really done by most others in one’s social group (Lapinski & Rimal, 2005). It describes what is typical or normal and it motivates by providing evidence of what will possibly be effective and adaptive action, meaning, it must be the rational thing to do if everyone else is doing it (Cialdini et al., 1990). When consumers, for example, learn that eight out of ten people choose one brand of mobile over another, they are getting information about descriptive norms (Goldstein, Cialdini & Griskevicius, 2008).

Put more simply, injunctive norms specify what ought to be done, while descriptive norms specify what is done (Cialdini et al., 1990). For instance, people attending a formal conference may notice that, because most others are quiet and paying close attention (descriptive norms), they are required to act in a similar way and that they will bring upon themselves social sanctions if they do not comply (injunctive norms) (Lapinski & Rimal, 2005).

The other problem is that even though social norms are said to guide and characterize behavior within a society, they should not be considered invariably in force in all situations and at all times (Cialdini et al., 1990). Hence, either descriptive or injunctive norms are unlikely to affect behavior, except if it is salient for a person at the time of behavior (Kallgren, Reno & Cialdini, 2000).

Injunctive social norm is similar to the concept of subjective norms as proposed by the theory of planned behavior. It refers to “the perceived social pressure to perform or not to perform the behavior” (Ajzen, 1991, p. 188) and injunctive norms is the component of subjective norm as it is also concerned with performing the behavior due to perceived social pressures from significant others (Smith & Louis, 2008; White, Smith, Terry, Greenslade, & McKimmie, 2009). People’s actions are motivated by emphasizing possible social rewards and punishments for engagement or non-engagement in the behavior by social injunctive norms. In contrast, the perception of whether other people perform the behavior in question is reflected in descriptive social norms (White et al., 2009). Research points out that both injunctive and descriptive norms motivate human action, that is, people have a tendency to do what is socially approved and also what is popular (Cialdini, 2003). The two social norms constructs will from now on be referred to as descriptive social norms and injunctive social norms for the remainder of this paper.

### **2.1.1 Descriptive social norms**

Several experimental studies have shown that descriptive norms can have powerful effect on willingness to engage in pro-environmental behavior. Schultz, Nolan, Cialdini, Goldstein and Griskevicius (2007) found that descriptive normative information led to the desired decrease in energy consumption for households that consumed above the average. This is also in line with the study by Nolan, Schultz, Cialdini, Goldstein and Griskevicius (2008) who showed that descriptive normative message encourages people to conserve more energy in their home. Goldstein et al. (2008) conducted a two-field experiment where they inspected the effectiveness of signs requesting hotel guests to participate in an environmental conservation program. The results indicated the power of descriptive norms as towel reuse increased significantly when hotel guests were informed that other guests generally reused their towel. Studies have also shown that descriptive norms have a significant effect on intentions to engage in eco-friendly behaviors (De Leeuw, Valois, Ajzen, & Schmidt, 2015), choosing eco-friendly travel options (Doran & Larsen, 2016), intention to recycle (Study 1, Nigbur, Lyons & Uzzell, 2010; Schultz, 1999) and reducing littering (Cialdini et al., 1990).

Therefore, I 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 behavioral intentions.*

### **2.1.2 Injunctive social norms**

As was mentioned earlier, injunctive norms are socially shared rules of conduct (Nigbur et al., 2010), that is, what counts to be morally approved and disapproved (Cialdini et al., 1990). Ohtomo and Hirose (2007) results indicated that what people approve or disapprove of (i.e. injunctive norm) is determinant in the intentional process to encourage eco-friendly behavior.

De Groot, Abrahamse and Jones (2013) also showed that using an injunctive normative message combined with the standard environmental message encouraged customers to use fewer plastic bags compared with the standard environmental message that mainly emphasized the environmental benefits of reusing plastic bags only.

Furthermore, studies have found that injunctive norm is determinant of behavioral intention for recycling behavior (Ohtomo & Hirose, 2007), and environmental concern on purchase intentions (Kim, Lee & Hur, 2012). In the previous study, Doran and Larsen (2016) maintained that injunctive social norm was positively and significantly associated with behavioral intentions.

Previous studies of the theory of planned behavior suggest that injunctive norms (which is comparable to subjective norms in the theory of planned behavior) serve to determine behavioral intention as a social pressure to perform or not perform a specific behavior (Ohtomo & Hirose, 2007). In environmental context, studies have found that subjective norms have significant correlation with behavioral intention to choose an eco-friendly restaurant (Kim, Njite & Hancer, 2013) and positively affects customers' intention to stay at a green hotel (Han, Hsu & Sheu, 2010).

Based on the literature review, I 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.

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

## **2.2 Personal norms**

As was noted above, the theory of normative conduct states that norms can affect human actions and that at least three distinct types of norms can be effective in this regard, where the third norm was personal norms (Cialdini et al., 1991). Personal moral norm has been argued by

researchers for the inclusion as the third type of norm, which has been found to play a specifically important part in predicting the behaviors with a moral or ethical component such as environmental behavior (White et al., 2009).

Personal norms refer to individual's judgment that behaving in a specific way is right or wrong. This means that an individual's willingness to follow his/her personal norm is based on expectation of negative self-related feelings like guilt or regret after having broken his/her personal norms, not on his/her fear of social sanctions (Bamberg et al., 2007).

Schwartz's (1977 as cited in Nordlund & Garvill, 2002) norm-activation theory states that activation of personal moral norms is an important antecedent to pro-environmental behavior. This activation occurs when a person becomes aware of that his/her potential actions can threaten something the person values (e.g. one's own well-being, other humans' well-being, the nature) and when a person accepts the responsibility for those actions and their consequences. This assumes that when these conditions of awareness of consequences and ascription of responsibility are fulfilled, there will be an association between a person's moral norms and his/her behavior (Schwartz, 1968; Schwartz, 1973).

Furthermore, the value-belief-norm (VBN) theory which was developed from the norm-activation theory (Schwartz, 1977 as cited in Stern, 2000) by Stern (2000, p. 413) suggests that "personal norms to take pro-environmental action are activated by beliefs that environmental conditions threaten things the individual values and that the individual can act to reduce the threat".

Gorsuch and Ortberg (1983) found that the moral obligation component significantly predicts behavioral intentions and Nordlund and Garvill (2002) showed that personal norms influence pro-environmental behavior. Doran and Larsen (2016) results also supported the stating that personal norms are positively related to behavioral intentions.



Studies done in an environmental context, personal norm has been shown to have significant influence on the intention towards purchasing organic food (Dean, Raats & Shepherd, 2008), using public transportation (Bamberg et al., 2007) and reducing personal car use (Nordlund & Garvill, 2003).

Hence, I assume that the degree to which people feel 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 behavioral intentions.*

Furthermore, Doran and Larsen's (2016) findings support the stating that personal norms contribute to explain (i.e. mediate) the relationship between injunctive social norms and intentions to choose an eco-friendly travel option. This is in line with other studies that have shown "that the strength of social norms as a predictor of behavioral intentions (or actual behavior) is mediated through personal norms" (Doran & Larsen, 2016, p. 161). Subjective social norms influence on buying organic food has been shown to be mediated through the personal norm (Thøgersen & Ölander, 2006) and the influence of injunctive social norm has also been shown to influence recycling behavior indirectly through personal norm (Hopper & Nielsen, 1991 as cited in Minton & Rose, 1997). Hence, I assume that injunctive social norms influence on behavioral intentions is mediated through personal norm.

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

## **2.3 Reference groups**

In the study by Doran and Larsen (2016), social norms were measured by asking participants to specify 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. The behavioral impact of social norms may however differ between the characteristics of the reference group (Doran & Larsen, 2016). Therefore, they recommend developing further understanding of which reference group has the strongest normative social influence on travel choices which will be added to this study as mentioned before.

“People turn to particular groups for their standards of judgment. Any person or group served as a reference group could exert a key influence on an individual's beliefs, attitudes, and choices” (Moutinho, 1987 as cited in Lam & Hsu, 2006, p. 591). This is due to the fact that an individual may comply with her/his referent group(s) but such complying is a subjective norm which is composed of concepts or general statements that guide behaviors (Lam & Hsu, 2006). For instance, someone could decide to take her/his next holiday to Iceland, based on that all her/his friends are going to Iceland. This kind of person can belong to the group or have a desire to join it (Decrop, 1999).

Subjective norms are a function of normative beliefs about the social expectations of people who are most important to an individual (e.g. family, friends, colleagues etc.) and an individual's motivation to conform to what these people think. This means that when an individual is deciding whether to behave in a specific way, she/he faces perceived social pressure (Park, 2000). The values that these referent influences have covered by two measures. First, the probability which the referent holds the normative belief and second, the motivation to act in accordance with the views of the referent (Kalafatis, Pollard, East, & Tsogas, 1999). Sometimes, socially worthy acts as, for example, recycling of bottles and paper results in feelings of pride or self-respect, while feelings of shame or self-reproach may be generated due to failure to act in this way (Kalafatis et al., 1999).

For years, the relation between the individual and the collective has been of interest among social psychologists and how powerful the role of collectives plays in shaping a

person's emotional reactions, self-identity, moral judgments and social behavior (Miller & Prentice, 1994). People tend to use others, especially others who share same beliefs and are similar on relevant dimensions, as a source of information for arriving at and to form an idea of one's beliefs about the world (Escalas & Bettman, 2005). The values and norms that become instantiated in the social identity of the group, tend to be those that link the in-group members and distinguish it from out-groups (Turner, 1991 as cited in Miller & Prentice, 1994). Escalas and Bettman (2005) take an example where you might consider yourself to be an intellectual, and as your member group of intellectuals tend to drive Volvo, you might choose to drive a Volvo as well as a symbol of how intellectual you are. On the other hand, you avoid associations obtained from groups to which you do not belong.

Among various reference groups, parents, teachers and friends (or peers) represent the standard referents that make significant influences on the consumer decision-making process (Hsu, Kang & Lam, 2006). Furthermore, family remains as a crucial reference group as it is the source of most of our norms (Decrop, 1999).

To convince consumers to purchase products and brands, reference group concepts have been used to that end by advertisers (Bearden & Etzel, 1982). Calling attention to reference groups in convincing ways to market products and brands demonstrates "the belief that reference groups expose people to behavior and lifestyles, influence self-concept development, contribute to the formation of values and attitudes, and generate pressure for conformity to group norms" (Bearden & Etzel, 1982, p. 184).

The social identity theory holds that we tend to compare ourselves with others which are similar to or a bit better than ourselves on similar dimensions. These social comparisons enable opinions, experiences and self-evaluation (Abrams & Hogg, 1990). The theory also posits that "one's social identity is clarified through social comparison, but generally the comparison is between in-groups and out-groups" (Abrams & Hogg, 1990, p. 3). When

individuals consider themselves as belonging to a group and feel that it is important to them to be a group member, they will conform to the norms and standards of the group. Hence, the social identity approach indicates that the groups which individuals belong to (i.e. ingroups) will have more influence than the group that they do not belong to (i.e., outgroups) (Smith & Louis, 2008). Smith and Louis (2008), for instance, found that in-groups interactively influence decisions but outgroup norms were largely ineffective.

Furthermore, studies have shown that participants conform to their primary reference group, the one that stand closest to them. Study by Hsu et al. (2006) showed support for the importance of reference group influences in travel behavior, as participants were more likely to conform to their primary reference group's (family and friends/relatives) opinions than their secondary reference group's (travel agents) opinions regarding visiting Hong Kong. Lam and Hsu (2006) also found that social influence from referent members of Taiwanese tourists was an important part affecting their decision to choose Hong Kong as a travel destination. Kim and Prideaux (2005) demonstrated that Japanese tourists have a tendency to use reference groups as information sources as they rely on information from friends or relatives. Finally, Escalas and Bettman (2005) results show that consumers choose brands that match the reference groups they belong to.

Despite the existing correlational and experimental research findings, a question remains about which reference group has the most normative influence on eco-friendly travel choices. It has been pointed out that new sets of beliefs and salient referents should be obtained for each new conditions and population (Ajzen & Fishbein, 1980 as cited in Han et al., 2010). Therefore, it was decided to contact Rouven Doran, one of the researchers of the study being replicated. Doran (personal communication, February 2, 2017) suggested three reference groups for this study; "other tourists at this destination", "other tourists visiting this country" and "other tourists worldwide".

After receiving this suggestion from Doran, it was decided to have a conversation with some tourists visiting Iceland to find out whom they ask or where they search to get information about what to do in Iceland. These discussions brought to light that all of them searched online to see what other tourists chose to do.

It can be assumed that tourists visiting a specific destination are sharing the same experience with other tourists visiting that destination and thus may feel a close association with those individuals (Goldstein et al., 2008). For instance, the previous mentioned study by Goldstein et al. (experiment 2, 2008) of effectiveness of signs asking hotel guests to participate in towel reuse program showed that the message encouraging guests to participate in the program as other guests in the same room had done yielded a significantly higher towel reuse compared to the other two messages; encouraging what other guests in the whole hotel have done and joining their fellow citizen in the program. In addition, as discussed above, studies have shown that tourists tend to conform to the one that stand closest to them or choose brands that matches the reference groups they belong to (Escalas & Bettman, 2005)

Therefore, I assume that individuals are more likely to follow the norms of the tourists that are at the same destination as they are, than those of more distance to them, i.e. “other tourists visiting this country” and “other tourists worldwide”.

*Hypothesis 5:* The reference group “Other tourists at this destination” has the most normative social influence on travel choices.

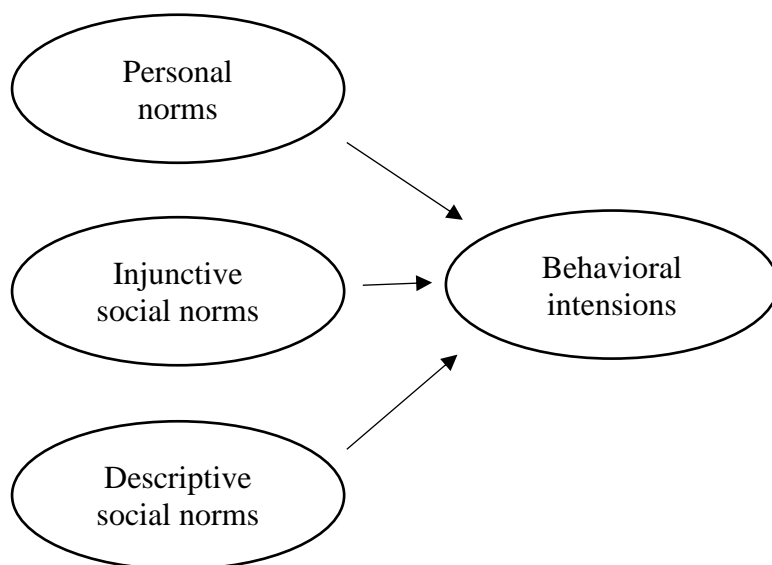
### 3 Hypothesis and models

To summarize, the hypotheses for this study are as following:

- *Hypothesis 1:* Descriptive social norms are positively related to behavioral intentions
- *Hypothesis 2:* Injunctive social norms are positively related to behavioral intentions.
- *Hypothesis 3:* Personal norms are positively related to behavioral intentions.
- *Hypothesis 4:* Personal norms mediate the relationship between injunctive social norms and behavioral intentions.
- *Hypothesis 5:* The reference group “Other tourists at this destination” has the most normative social influence on travel choices.

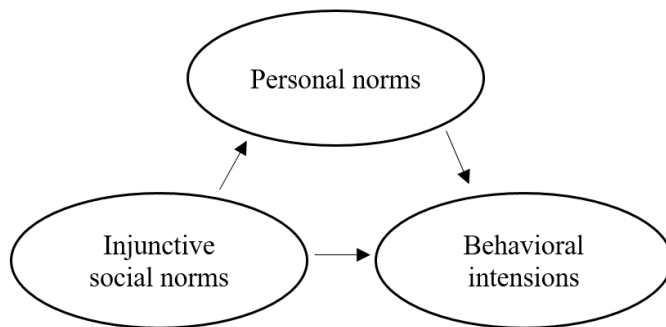
Two conceptual models were developed based on the literature review and on the previous study by Doran and Larsen (2016). First, personal norms and the two social norms (i.e. descriptive and injunctive social norms) are proposed to have positive impact on behavioral intention (Figure 1).

*Figure 1. Conceptual model 1*



The second model proposed that personal norm mediate the relationship between injunctive social norms and behavioral intentions (Figure 2).

*Figure 2. Conceptual model 2*



As mentioned in the section about social norms and personal norms, hypotheses 1- 4 have been supported in the previous study by Doran and Larsen (2016) and other studies as well. The researchers also mention that their study is “among the first 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)” (Doran & Larsen, 2016, p. 165). However, hypothesis 5 has not been tested before.

## 4 Methodology

The methodology part describes how the empirical study will be conducted. It includes description of the design of the research, the population being investigated, how the sample will be chosen and how the data is collected. Finally, it includes information about which measurements and type of data analysis will be used.

### 4.1 Design

The purposes of research can be organized into three groups; to explore, to describe and to explain. We use exploratory research when little or nothing is known about the subject, descriptive research to describe a social phenomenon and explanatory research when the purpose is to explain why something occurs (Neuman, 2013).

In practice, exploratory and descriptive research can blend together (Neuman, 2014) as will be done in this study. First, the goal is to evaluate and formulate Doran and Larsen's (2016) questionnaire and then the study will have a descriptive design as the purpose is to paint a picture on "how individual differences in normative beliefs may relate to travel choices" (Doran & Larsen, 2016, p. 165). The purpose is to discover new data that contradicts past data and get an answer to the research questions (Neuman, 2013). In addition, by replicating a study it contributes to increasing the generalizability and explanatory power of previous findings (Mackey, 2012).

Evidence in social research takes two forms, either quantitative data where it is expressed exactly as numbers, or qualitative data where it is expressed as words, images or objects (Neuman, 2013). Previous study used quantitative research in order to collect data, hence the same method will be used where the researcher systematically asks a large number of people similar questions as were asked by Doran and Larsen (2016) and then the answers will be recorded.



## 4.2 Planned sample

Small sample might give results that cannot be generalized with other samples, that is to say they cannot be repeated (Pallant, 2016). To calculate required sample size, Tabachnick and Fidell (2013, as cited in Pallant, 2016, p. 151) give a formula which suggests “taking into account the number of independent variables that you wish to use:  $N > 50 + 8m$  (where  $m =$  number of independent variables)”. The current study has three independent variables that results in 74 cases required for multiple regression analysis. However, it is well known that “the larger the sample size, the smaller the sampling error” (Neuman, 2014, p. 114). As a comparison of regression analysis between the three reference groups was conducted, at least 222 cases were required (3 times 74 cases).

## 4.3 Data collection

The sample for this study was selected by using convenience sampling which is considered to be easy, cheap and fast of use (Neuman, 2014). This type of sampling involves getting responses from those individuals who are available and willing to participate (Kitchenham & Pfleeger, 2002). This type of sampling has though some problems as it can produce very unrepresentative samples and cannot be generalized precisely to the population (Neuman, 2014). Hence, in the current study a special importance was given to reflect aspects of diversity in the targeted population, especially approaching tourists of both sex and of all age above 18 years old.

In the beginning, self-administered paper-and-pencil survey was handed out, in English only, to those who agreed to participate at two locations in Iceland; Keflavík International Airport and at a restaurant in Grindavík.

For the two surveys that included the reference groups “other tourists worldwide” and “other tourists visiting this country”, Keflavik International Airport was chosen as most tourists

arrive to Iceland through this main international airport. Gray Line Iceland was contacted which operates Airport Express, that takes tourists by bus from the airport to Reykjavík, the capital of Iceland. Permission was granted from the project manager of the company to approach tourists in the bus while they were waiting to depart to Reykjavík. A bus departed every half an hour but the data collection took place when the afternoon flights came in. The two surveys were handed out to different tourists in the bus who agreed to participate.

For the survey that included the reference group “other tourists at this destination”, the town Grindavík was chosen. Grindavík is between Keflavík International airport and Reykjavík, and about 5 kilometers from Grindavík is the popular attraction the Blue Lagoon. Potential participants were approached at a local restaurant in Grindavík and the survey handed out to those tourists that agreed to participate.

#### **4.4 Measurements**

In order to investigate the relationship between the three types of norms (i.e. descriptive social norms, injunctive social norms and personal norms) and behavioral intention, two steps were taken.

The first step was to evaluate and adapt Doran and Larsen’s (2016) questionnaire to this study, which was done in two ways. First, expert evaluation was done where experienced survey researchers review and critique the questionnaire. Second, think aloud interviews were conducted where target group member explains his/her thinking out loud in the process of answering each question (Neuman, 2013). Both procedures were repeated with different experts/target group member until no new information was obtained. The questionnaire was then adapted in conformity with the comments gained from the experts and target group members. There were three main changes made to the questionnaire. First, the reference group “other tourists at this destination” was considered to be too similar to “other tourists visiting

this country” as people thought of Iceland in both cases. Therefore, this reference group was changed to “other tourists at localized destination” to make it clearer that Grindavík was the destination. Second, the titles above the items for descriptive and injunctive social norms were adjusted which can be seen below in Table 1.

*Table 1. Titles for descriptive and injunctive social norms*

<b>Titles in Doran and Larsen’s (2016) study</b>	<b>Titles in the current study (example for the reference group “other tourists at localized destination”)</b>
How many of the people who are important to you...	I believe that other tourists at localized destination would...
Most people who are important to me think that one ought to...	I believe that other tourists at localized destination think one ought to...

Third, headlines were added above each construct to distinguish them more clearly as explained below.

The second step was using quantitative method as was done in the previous study by Doran and Larsen (2016), i.e. self-administered paper-and-pencil survey. The first part of the questionnaire included demographic questions in addition to a question concerning if respondents considered themselves to be environmentally friendly, with four options: “Very friendly”, “somewhat friendly”, “when it’s convenient” and “don’t really care”. The second part of the questionnaire included the same set of five different items to measure intentions to choose eco-friendly travel options that were used in the previous study. Behavioral aspects that are included in Doran and Larsen’s (2016) study are paying more for a trip if it helps to protect the environment or buying environmentally friendly tourism products even though it might be more costly or time-consuming. All items measuring social and personal norms address similar behavioral aspects, but each set of items focuses on one specific type of norm (Doran & Larsen, 2016). The items for each construct can be seen below in Table 2. To clearly distinguish between the constructs, an expert suggested adding headlines above each construct that was

mentioned earlier. Headlines were added so the reader would be more aware of the differences between the constructs, e.g. “In the first section, I would like to know the likelihood of you choosing eco-friendly travel options” and “Here, I am interested in what you think the likelihood is that other tourists at localized destination would choose eco-friendly travel options”. The questionnaire as a whole (example of the survey that included the reference group “other tourists at localized destination”) can be seen in Appendix A.

Behavioral intentions, injunctive social norms and descriptive social norms were measured on a seven-point Likert scale ranging from 1=very unlikely to 7=very likely, whereas descriptive social norms were measured on a seven-point Likert scale ranging from 1=strongly disagree to 7=strongly agree.

For a reminder, the previous study did not include different reference groups (i.e. only “people who are important to you”). This study did differentiate between three reference groups; “Other tourists at localized destination”, “other tourists visiting this country”, and “other tourists worldwide”. Hence, social norms were measured by asking participants to indicate to which degree they believe that other tourists at localized destination, other tourist visiting this country or other tourists worldwide would choose (i.e. descriptive social norms) or expect them to choose (i.e. injunctive social norms) eco-friendly travel options. To explore the role of these three different reference groups, a between-subject design was chosen. There are mainly two ways when testing different factors; within subject-design and between-subject design. In the former one, each individual is exposed to more than one of the factor being tested (in this case three different reference groups). In a between-subject design, each individual is exposed to only one factor (Charness, Gneezy & Kuhn, 2012), i.e. some participants received a survey that includes the reference group “other tourists worldwide” while other received the reference group “other tourists at localized destination or “other tourists visiting this country”. This resulted in three different surveys which were handed out

at Keflavik International Airport and in Grindavík as mentioned above. As the items under each construct are identical, it was assumed that participants would get confused and the survey would be too long if all of the three reference groups were included in one survey.

*Table 2 - Items to measure index variables*

Instructions and items based on Doran and Larsen's (2016) study	
	How likely is that you would...
BI1	... pay more for a trip if this helps to protect the environment
BI2	... make an effort to stay at environmentally friendly accommodation when travelling
BI3	... purchase environmentally friendly tourism products although this might be more expensive
BI4	... use environmentally friendly means of transportation although this might take more time
BI5	... use environmentally friendly means of transportation although this might be more expensive
	I believe that other tourists at localized destination (or visiting this country or worldwide) would ...
DN1	... pay more for a trip if this helps to protect the environment
DN2	... make an effort to stay at environmentally friendly accommodation when travelling
DN3	... purchase environmentally friendly tourism products although this might be more expensive
DN4	... use environmentally friendly means of transportation although this might take more time
DN5	... use environmentally friendly means of transportation although this might be more expensive
	I believe that other tourist at localized destination (or visiting this country or worldwide) think that one ought ...
IN1	... to pay more for a trip if this helps to protect the environment
IN2	... to make an effort to stay at environmentally friendly accommodation when travelling
IN3	... to purchase environmentally friendly tourism products although this might be more expensive
IN4	... to use environmentally friendly means of transportation although this might take more time
IN5	... to use environmentally friendly means of transportation although this might be more expensive
	I do feel a moral obligation ...
PN1	... to pay more for a trip if this helps to protect the environment
PN2	... to make an effort to stay at environmentally friendly accommodation when travelling
PN3	... to purchase environmentally friendly tourism products although this might be more expensive
PN4	... to use environmentally friendly means of transportation although this might take more time
PN5	... to use environmentally friendly means of transportation although this might be more expensive

*Note:* BI, behavioral intentions; DN, descriptive social norms; IN, injunctive social norms; PN, personal norms

## 4.5 Data handling and analysis

All analyses were conducted with the statistical package IBM Statistics, Version 21 (IBM Corp., Armonk, NY).

Correlation analysis was done to find out the strength and direction of the linear relationship between the variables.

Hierarchical multiple regression analysis was done which gives information about the model as a whole and the relative contribution of each of the variables that make up the model (Pallant, 2016). In addition, the mediating role of personal norms in the relationship between injunctive social norms and behavioral intentions was tested with standard multiple regression analysis. In this study, the same scale was used (i.e. 7 point Likert scale) so the unstandardized coefficients values (*B*) were reported, but the standardized coefficients values (Beta) are used when different scales are used as “these values for each of the different variables have been converted to the same scale” (Pallant, 2016, p. 162).

To compare the perceived social pressure between the three reference groups, one-way between-group analysis of variance (ANOVA) with post-hoc test was conducted. Finally, a comparison of regression analysis between the three reference groups was done to find out which reference group has the most normative social influence on travel choices

## 5 Results

This section will first describe the data collection and obtained sample. Then the measurements will be validated and the main findings described.

### 5.1 Participants

Data was collected during the course of three weeks on twelve days, from 27<sup>th</sup> of February to 19<sup>th</sup> of March 2017. In total 319 questionnaires were filled in, out of which six were no usable and therefore not taken into consideration for analysis. There were 106 questionnaires that included the reference group “other tourists at localized destination”, 104 questionnaires that included the reference group “other tourists visiting this country” and 109 for “other tourists worldwide”. The age ranged from 18 to 85 ( $M = 37.19$ ,  $SD = 15.19$ ) with gender distribution roughly equal (53.6% female and 46.4% male). Tourists of 24 different nationalities were registered, the largest group being British (37.3%), then North Americans (17.9%), Irish (6.6%), Germans (6.3%) and Dutch (5%). Most participants were in a relationship (37%) or married (37.3%), where the rest were single (23.2%) or divorced/separated (1.6%). Bachelor’s degree (36.7%) was the most common highest level of education completed, then high school (23.5%), master’s degree (20.7%), secondary school (11%) and finally doctorate degree (3.1%). Majority of participants considered themselves to be somewhat environmentally friendly (65.2%), whereas little under third of the them considered themselves to be very environmentally friendly (27.3%). Only 7.5% saw themselves to be environmentally friendly when it was convenient and no one considered themselves to be not at all environmentally friendly. Detailed description of the sample can be seen in Appendix B.

## 5.2 Descriptive results

Descriptive results for the four constructs can be seen below in Table 3.

The negative skewness values for all constructs suggests clustering of scores at the high end and the positive kurtosis value for behavioral intentions indicated that the distribution is rather peaked (Pallant, 2016). The other three constructs have a kurtosis below 0 which according to Pallant (2016) indicates a “distribution that is relatively flat (too many cases in the extremes)” which might result in an under-estimate of the variance. However, as the sample is reasonably large, it reduces the risk (200+ cases: see Tabachnick & Fidell, 2013, p. 80 as cited in Pallant, 2016, p. 57).

*Table 3. Descriptive results for the constructs*

Constructs	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Skewness</i>		<i>Kurtosis</i>	
				<i>Statistics</i>	<i>Std. Error</i>	<i>Statistics</i>	<i>Std. Error</i>
Behavioral intentions	319	4.67	1.07	-0.47	0.14	0.30	0.27
Descriptive norms	319	3.96	1.14	-0.11	0.14	-0.46	0.27
Injunctive norms	319	4.36	1.11	-0.30	0.14	-0.23	0.27
Personal norms	319	4.89	1.20	-0.46	0.14	-0.06	0.27

The descriptive results for the items of the constructs for the questionnaire as a whole can be seen in Appendix C and the descriptive results for the items of the constructs for the three reference groups independently can be seen in Appendix D.

Variables were further checked, to find out if there was any violation of the assumptions underlying the statistical techniques that will be used to address the research questions. The results of the Kolmogorov-Smirnov statistic that assesses the normality of the distribution of scores indicated violation of the assumption of normality as it gave significant results, however this is quite common in larger samples (Pallant, 2016). The scores however appeared to be reasonably normally distributed, supported by an inspection of the normal probability plots. When checking for outliers, few of them were found for injunctive social norms and behavioral



intensions (none were found for personal norms and descriptive social norms). However, as the trimmed mean and mean values were very similar and they were not too different from the remaining distribution, these cases could be retained in the data file according to Pallant (2016).

### **5.3 Measurement's reliability and validity**

Measurement's reliability and validity in quantitative research is important as it leads to truthfulness, credibility and believability (Neuman, 2014).

Generally, the first step in validating a survey is to establish face validity. Face validity is a "judgment by the scientific community that the indicator really measures the construct" (Neuman, 2014). Face validity mainly played a role when Doran and Larsen's (2016) questionnaire was evaluated and adapted to this study with expert evaluation and think aloud interviews. The questionnaire has been shown to measure the constructs they intend to measure by Doran and Larsen (2016) and has been adapted in conformity with the comments gained from the experts and target group members as described in chapter 4.3 Measurements.

Furthermore, one of the aspects of reliability that can be assessed is internal consistency, which is "the degree to which the items that make up the scale are all measuring the same underlying attribute" (Pallant, 2016, p. 132). The most commonly used statistic is Cronbach's coefficient alpha, where .50 to .60 is suggested to be sufficed and increasing reliability over .80 is possibly wasteful (Nunnally, 1967 as cited in Churchill, 1979). Pallant (2016) however suggests that values above .7 are considered acceptable, while values above .8 are preferable.

According to Doran and Larsen (2016), all three norms had quite good internal consistency, with a Cronbach alpha coefficient reported of .95 for descriptive social norms, .96 for injunctive social norms and .96 for personal norms. This is however possibly wasteful according to Nunnally (1967, as cited in Churchill, 1979). In the current study, the Cronbach

alpha coefficient was .91 for descriptive social norms, .92 for injunctive social norms and .93 for personal norms. A high value of alpha ( $> 0.90$ ) like these may indicate redundancies and show that the test length should be shortened (Tavakol & Dennick, 2011). However, as these values were in line with the previous study where the scale was shown to work, the measures were kept and considered reliable.

Construct validity is explored by “investigating its relationship with other constructs, both related (convergent validity) and unrelated (discriminant validity)” (Pallant, 2016, p. 7). Discriminant validity should indicate low correlation between scales that are measuring different constructs, whereas convergent validity should indicate high correlation between the items designed to measure the same construct (Churchill, 1979). The correlation for all items for the four constructs can be seen in Appendix E which indicates both discriminant and convergent validity.

Further analysis was done to establish convergent and discriminant validity. While having three different types of surveys (i.e. with perspective from three different reference groups), they all measure social and personal norms that address similar behavioral aspects. All items for social norms and personal norm were subjected to principal component analysis (varimax with Kaiser normalization) in order to see how highly the items load on each factor. Before performing principal component analysis, the suitability of data for factor analysis was assessed. First, the correlation matrix showed many coefficients of .3 and above. Second, as Kaiser-Meyer-Olkin value was .880 which exceeded the recommended value of .6 (Kaiser, 1970, 1974 as cited in Pallant, 2016) and the Bartlett’s Test of Sphericity reached statistical significance, it was verified that the data set was suitable for factor analysis (Pallant, 2016). The results from the principal component analysis can be seen below in Table 4.

Table 4. Items and factor loadings from principal component analysis with varimax rotation

Items	Factor loading <sup>a</sup>			Communality
	1	2	3	
DN1	0.16	0.21	<b>0.84</b>	0.77
DN2	0.11	0.24	<b>0.81</b>	0.72
DN3	0.13	0.28	<b>0.80</b>	0.74
DN4	0.17	0.22	<b>0.78</b>	0.68
DN5	0.18	0.28	<b>0.82</b>	0.78
IN1	0.21	<b>0.85</b>	0.23	0.82
IN2	0.16	<b>0.83</b>	0.27	0.78
IN3	0.17	<b>0.80</b>	0.25	0.73
IN4	0.20	<b>0.78</b>	0.23	0.70
IN5	0.15	<b>0.84</b>	0.28	0.81
PN1	<b>0.82</b>	0.14	0.21	0.73
PN2	<b>0.87</b>	0.14	0.22	0.83
PN3	<b>0.85</b>	0.20	0.12	0.77
PN4	<b>0.83</b>	0.17	0.11	0.73
PN5	<b>0.89</b>	0.18	0.08	0.84

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

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

The analysis revealed the presence of three components with eigenvalues exceeding 1, explaining 48.6%, 16.8% and 10.8% of the variance respectively. In accordance to the previous study, three different components could be distinguished that explained 76.2% of the variance: Kaiser-Meyer-Olkin measure = .880; approximate  $\chi^2(105) = 4081.784$ ; and  $p < 0.001$ . These results indicated the measurement's convergent and discriminant validity and therefore all the constructs were retained for further analysis.

#### 5.4 Associations between behavioral intentions, social norms and personal norms

In order to explore association between the three different norm constructs and intentions to choose eco-friendly travel options, bivariate correlation was inspected that is presented below in Table 5.

Table 5. Mean, standard deviations, and correlations for index variables

Index variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Behavioral intentions	4.67	1.07	-			
2. Descriptive social norms	3.96	1.14	0.45**	-		
3. Injunctive social norms	4.36	1.11	0.37**	0.57**	-	
4. Personal norms	4.89	1.20	0.64**	0.38**	0.42**	-

Note: Pearson correlations

N = 319

\*  $p < 0.01$ , two-tailed.

All three norms were positively and significantly associated with behavioral intentions; however, the strength of these associations did differ. Cohen (1988, as cited in Pallant, 2016) interprets the values to be small for  $r = .10$  to  $.29$ , medium for  $r = .30$  to  $.49$  and large for  $r = .50$  to  $1.0$ . According to this, personal norms had strong positive correlation with behavioral intentions, whereas the two social norms had medium positive correlation with behavioral intentions. The positive correlation indicated the more people perceive social pressure, the more likely people are to choose eco-friendly travel options. The same is for personal norms, that is, the more people feel a moral obligation, the more likely is that people will choose eco-friendly travel options.

The relationship between the norms and behavioral intention for males and females were looked at separately and tested if there was a statistical significance of the differences between correlation coefficients. No statistical significance was found between the correlation scores for females and males.

In addition, bivariate correlation was inspected in order to explore association between the three different norm constructs and intentions to choose eco-friendly travel options across the three reference groups. Results can be seen below in Table 6, which are in line with the results above (Table 5) for all three groups put together. All three norms were positively and significantly associated with behavioral intentions, whereas personal norms had strong positive

correlation with behavioral intentions and the two social norms had medium positive correlation with behavioral intentions.

*Table 6. Mean, standard deviations, and correlations for index variables across the three reference groups*

Results for the reference group "other tourists at localized destination"						
Index variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Behavioral intentions	4.80	1.10	-			
2. Descriptive social norms	4.07	1.10	0.45**	-		
3. Injunctive social norms	4.48	1.14	0.33**	0.45**	-	
4. Personal norms	5.14	1.27	0.59**	0.39**	0.46**	-

Results for the reference group "other tourists visiting this country"						
Index variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Behavioral intentions	4.59	0.99	-			
2. Descriptive social norms	4.16	1.04	0.47**	-		
3. Injunctive social norms	4.43	1.07	0.44**	0.64**	-	
4. Personal norms	4.81	1.09	0.67**	0.37**	0.25**	-

Results for the reference group "other tourists worldwide"						
Index variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Behavioral intentions	4.62	1.12	-			
2. Descriptive social norms	3.67	1.21	0.46**	-		
3. Injunctive social norms	4.18	1.12	0.35**	0.60**	-	
4. Personal norms	4.74	1.19	0.65**	0.36**	0.50**	-

*Note:* Pearson correlations

Reference group "other tourists at localized destination, N = 106; Reference group "other tourists visiting this country, N = 104; Reference group "other tourists worldwide, N = 109

\*\* p < 0.01, two-tailed.

## 5.5 The relative importance of social and personal norms in explaining behavioral intentions

Hierarchical multiple regressions were conducted to explore the relative importance of social and personal norms (independent variables) in explaining intentions to choose eco-friendly travel options (dependent variable).

First, preliminary analyses were conducted to make certain that no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. The correlation

between each of the independent variable was not too high and all independent variables showed some relationship with the dependent variable. Both VIF and Tolerance values indicated no multicollinearity. The Normal P-P Plot showed no major deviations from normality and the Scatterplot indicated no violation of the assumptions. These preliminary analyses indicated that all variables could be retained for hierarchical multiple regression analysis.

Here, “the variables are entered in steps, with each independent variable being assessed in terms of what it adds to the prediction of the dependent variable after the previous variables have been controlled for” (Pallant, 2016, p. 150). The summary of the hierarchal regression analysis can be seen below in Table 7.

*Table 7. Summary of hierarchal regression analysis*

Independent variables	Behavioural intensions			
	Step 1		Step 2	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Descriptive social norms	0.34	5.87***	0.23	4.74***
Injunctive social norms	0.16	2.79**	0.003	0.60
Personal norms			0.49	11.69***
Constant	2.63	11.43***	1.36	6.13***
Adjusted R Square	0.22		0.45	
<i>F</i>	(2, 316) =	45.24***	(3, 315) =	88.69***

Note:  $R^2 = 0.22$  for Step 1;  $R^2 = 0.46$  for Step 2.

Unstandardized regression coefficient (*B*) for constant and for all independent variables

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$

First, descriptive and injunctive social norms were entered at Step 1, explaining 22.3% of the variance in behavioral intensions. Even though the correlation between descriptive and injunctive social norms was relatively strong (see above in Table 5), each norm explained separate amounts of variance in behavioral intentions (both positive associations). In step 1, descriptive social norms made the strongest unique contribution to explaining the dependent variable ( $B = .34$ ,  $p < .001$ ), whereas injunctive social norms made smaller contribution ( $B = .16$ ,  $p < .001$ ). These results supported hypothesis 1 and 2, that is, injunctive and descriptive

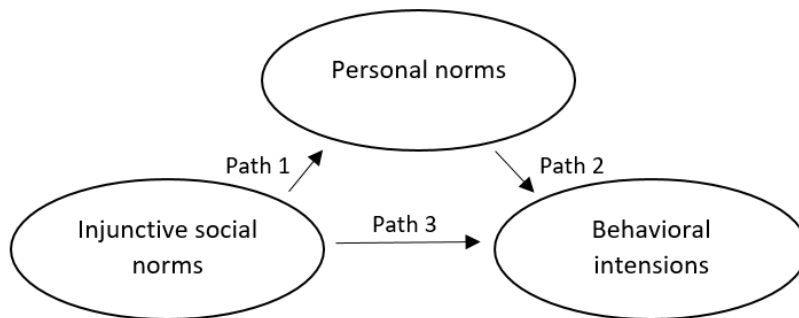
social norms are positively related to behavioral intentions. After entry of personal norms at Step 2, the total variance explained by the model as a whole was 46%,  $F(3, 315) = 88.69, p < .001$ . Personal norms as the control measure explained additional 23.5% of the variance in behavioral intentions, after controlling for descriptive and injunctive social norms,  $R^2$  change = .235,  $F$  change (1, 315) = 136.730,  $p < .001$ . As personal norms made strong unique contribution to explaining behavioral intentions ( $B = .49, < .001$ ) in addition to the two social norms (positive associations), it supported hypothesis 3: Personal norms are positively related to behavioral intentions.

While descriptive social norms still made statistically significant unique contribution to behavioral intentions, injunctive social norms did not make unique significant contribution to behavioral intentions when it was also controlled for personal norms (Step 2). Therefore, injunctive social norms were only positively and significantly associated with behavioral intentions when looking at the bivariate correlations and the regression model that included the two social norm constructs.

## **5.6 The mediating role of personal norms on the relationship between injunctive social norms and behavioral intentions**

In order to test if the relationship between injunctive social norms and behavioral intentions was mediated via personal norms, Baron and Kenny's (1986) approach for mediation analyses using regression analyses was followed. Their basic causal chain involved in mediation is diagrammed below in Figure 3.

Figure 3. Personal norms as a mediator for the relationship between injunctive social norms and behavioral intentions



This model assumes that there are two causal paths feeding into the dependent variable (behavioral intentions): the direct impact of the independent variable (Path 3), the impact of the mediator (Path 2) and then there is also a path from the independent variable to the mediator (Path 1) (Baron and Kenny, 1986). Hence, three regression analyses were conducted.

First one was to enter personal norms as the dependent variable and injunctive social norms as the independent variable (see Path 1). This model (that includes injunctive social norms) explained 17.7% of the variance in personal norms and reached statistical significance ( $F(1, 317) = 68.181, p < .001$ ). Injunctive social norms made statistically significant unique contribution to personal norms ( $B = .452, P < .001$ ).

In the second one, behavioral intentions were entered as the dependent variable and personal norms as independent variable (see Path 2). This model (that included personal norms) explained 40.6% of the variance in behavioral intentions and reached statistical significance ( $F(1, 317) = 216.980, p < .001$ ). Personal norms made statistically significant unique contribution to behavioral intentions ( $B = .572, P < .001$ ).

In the final regression analysis, behavioral intentions were kept as the dependent variable and injunctive social norms and personal norms were entered as the independent variables. This model (that included injunctive social norms and personal norms) explained 41.9% of the variance in behavioral intentions and reached statistical significance ( $F(2, 316)$



= 114.06,  $p < .001$ ). Injunctive social norms still made statistically significant unique contribution to behavioral intentions ( $B = .121$ ,  $P < .01$ ), as well did personal norms ( $B = .525$ ,  $P < .001$ ).

According to Baron and Kenny (1986), for a variable to function as a mediator it needs to meet three conditions. First, injunctive social norms need to account significantly for variations in personal norms (i.e. path 1) which was the case. Second, variations in personal norms needs to significantly account for variation in behavioral intentions (i.e. path 2) which was also the case. Third, when path 1 and 2 are controlled, a previously significant relation between injunctive social norms and behavioral intentions is no longer significant, with the strongest demonstration of personal norms occurring when path 3 is zero. This would indicate a full mediation, but as the relationship between injunctive social norms and behavioral intentions was still significant, the findings confirmed partial mediation. Partial mediation is the case in which the path from injunctive social norms to behavioral intentions is reduces in absolute size but is still different from zero when personal norm (the mediator) is introduced (Baron & Kenny, 1986). Hence, partial mediation is supported because injunctive social norms influence behavioral intentions even when the effect of personal norms is accounted for (hypothesis 4).

## **5.7 Exploring the differences in descriptive and injunctive social norm scores for the three reference groups**

To tell whether there was a significant difference in the mean scores on the descriptive and injunctive social norms across the three reference groups, one-way between-group analysis of variance (ANOVA) with post-hoc test was conducted. ANOVA “compares the variance (variability in scores) between the different groups (believed to be due to the independent variables) with the variability within each of the groups (believed to be due to chance)” (Pallant,

2016, p. 255). Between-group ANOVA means having different participants or cases in each of the groups included (Pallant, 2016), which in this study were three reference groups.

Participants were divided into three groups according to which reference group they were exposed to (other tourists at localized destination, visiting this country or worldwide). The Levene's test for homogeneity of variances indicated no violation of the assumption of homogeneity of variance.

There was only a statistically significant difference of the  $p < .05$  level in descriptive social norms scores for the three reference groups:  $F(2, 316) = 5.8, p < .003$ . The effect size calculated using eta squared was .035. The resulting eta square value is considered small in accordance to Cohen's (1988, as cited in Pallant, 2016, p. 260) terms, as he classifies ".01 as a small effect, .06 as a medium effect and .14 as a large effect". Results of the post-hoc tests gave the results of where the differences among the groups occur. Post-hoc comparison using the Turkey HSD test indicated that the mean score for "other tourists worldwide" ( $M = 3.67, SD = 1.21$ ) was significantly different from both "other tourists visiting this country" ( $M = 4.16, SD = 1.04$ ) and "other tourists at localized destination" ( $M = 4.07, SD = 1.1$ ).

This indicated that participants believed that "other tourists visiting this country" and "other tourists at localized destination" intent more strongly to choose eco-friendly travel options than "other tourists worldwide", however, the effect size was small.

The reference group "other tourists visiting this country" did not differ significantly from the reference group "other tourists at localized destination". No statistically significant difference of the  $p < .05$  level in injunctive social scores for the three reference groups was found.

## 5.8 Comparison of regression analysis for the three reference groups

Regression analysis was run between the social norms (injunctive and descriptive social norms) and behavioral intentions in the three reference groups independently to find out which of the reference groups have the most normative social influence on travel choices. To do this, the split file command was used to split the data file by reference groups and then standard multiple regression was run. Preliminary analyses indicated that all variables could be retained for standard multiple regression analysis.

Descriptive and injunctive social norms were entered as independent variables and behavioral intentions as the dependent variable. Results can be seen below in Table 8. For the reference group “other tourists at localized destination”, the model explained 21% of the variance in behavioral intentions, for the reference group “other tourists visiting this country” the model explained 24% and for the reference group “other tourists worldwide” it was 20%. The models all reached statistical significance.

For all groups, descriptive social norms made statistical significant unique contribution to explaining behavioral intentions (positive associations), where the strongest contribution was for the reference group “other tourists at localized destination ( $B = .38, p < 0.001$ ). The contribution for descriptive social norms for the reference group “other tourists worldwide” was slightly lower ( $B = .36, p < 0.001$ ), as well for the reference group “other tourists visiting this country” ( $B = .30, p < 0.01$ ). Only for the reference group “other tourists visiting this country” did injunctive social norms make statistical significant contribution to explaining behavioral intentions ( $B = .23, p < 0.05$ ).

Table 8. Regression analysis across the reference groups

Regression analysis for the reference group "other tourists at localized destination"			Regression analysis for the reference group "other tourists visiting this country"			Regression analysis for the reference group "other tourists worldwide"		
Independent variables	Behavioral intentions		Independent variables	Behavioral intentions		Independent variables	Behavioral intentions	
	<i>B</i>	<i>t</i>		<i>B</i>	<i>t</i>		<i>B</i>	<i>t</i>
Descriptive social norms	0.38	3.9***	Descriptive social norms	0.30	2.79**	Descriptive social norms	0.36	3.56***
Injunctive social norms	0.15	1.59	Injunctive social norms	0.23	2.16*	Injunctive social norms	0.12	1.14
Constant	2.58	5.87***	Constant	2.36	6.01***	Constant	2.80	7.29***
Adjusted R Square	0.21		Adjusted R Square	0.24		Adjusted R Square	0.20	
<i>F</i>	(2, 103) = 14.681***		<i>F</i>	(2, 101) = 17.084***		<i>F</i>	(2, 106) = 14.837***	

Note:  $R^2$  for the group "other tourists at localized destination" = 0.22;  $R^2$  for the group "other tourists visiting this country" = 0.25;  $R^2$  for the group "other tourists worldwide" = 0.22

Unstandardized regression coefficient for constant (*B*) and for all independent variables.

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

These results did not support hypothesis 5, that the reference group "Other tourists at localized destination" has the most normative social influence on travel choices. First, there was no significant difference between the impact of descriptive social norms in the three groups. Secondly, the injunctive social norms only played a significant role for the reference group "other tourists visiting this country", and not for the other two groups.

## 6 Discussion

The goal of the thesis was replicating as well extending the study by Doran and Larsen (2016) that examined the relative importance of social and personal norms in explaining intentions to choose eco-friendly travel options.

By doing so, the aim was twofold. First, it was to examine and better understand how normative beliefs are related 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). Second, it was to extend the previous study by investigating which reference groups have the most normative social influence on travel choices.

Four hypotheses were raised in order to help to investigate how normative beliefs are related 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):

- *Hypothesis 1 (H1)*: Descriptive social norms are positively related to behavioral intentions.
- *Hypothesis 2 (H2)*: Injunctive social norms are positively related to behavioral intentions.
- *Hypothesis 3 (H3)*: Personal norms are positively related to behavioral intentions
- *Hypothesis 4 (H4)*: Personal norms mediate the relationship between injunctive social norms and behavioral intentions.

One hypothesis was raised in order to help to investigate which reference groups have the most normative social influence on travel choices:

- *Hypothesis 5 (H5)*: The reference group “Other tourists at localized destination” has the most normative social influence on travel choices.

The next two chapters will discuss the findings, relate them to prior research and suggest their implications. Chapter 6.4 will summarize the implications.

## **6.1 How normative beliefs are related to choices of eco-friendly travel options**

The findings of this study supported the utility of Cialdini et al.'s (1990) theory of normative conduct in emphasizing the need to investigate different types of norms and their influence, in this case on intentions to choose eco-friendly travel options. As was expected based on the literature review, all three norms predicted considerable amount of the variance in behavioral intentions.

The bivariate analysis revealed that all three norms were positively and significantly associated with behavioral intentions. This indicated that people are favorably disposed toward choosing an eco-friendly travel options when they also believe that other tourists at localized destination, visiting this country and worldwide act in similar way (i.e. descriptive social norms), that other tourists at localized destination, visiting this country and worldwide expect them to (i.e. injunctive social norms) and that they have a moral obligation to do so (i.e. personal norms). Behavioral intentions were found to be significantly stronger associated to personal norms than with injunctive and descriptive social norm constructs which is in line with the previous study by Doran and Larsen (2016, p. 161).

When looking at the multivariate analysis, the regression model including the two social norm constructs explained 22% of the variance in behavioral intentions and 46% when all three norm constructs were included. This is similar to Doran and Larsen's (2016) study, where the regression model including the two social norm constructs explained 30% of the variance in behavioral intentions and 50% when all norm constructs were included.

Furthermore, when all three norms were entered as independent variables, only descriptive social norms and personal norms made statistically significant unique contribution to behavioral intentions. Injunctive social norms were only positively and significantly associated with behavioral intentions when looking at the bivariate correlations and the regression that included the two social norms constructs. A comparison of hierarchical regression analysis for this study and Doran and Larsen's (2016) study can be seen in Appendix F, which shows that the contribution of the norms to behavioral intentions is similar to the study being replicated. It should be noted that in Doran and Larsen's (2016) study, the standardized regression coefficient is reported for all independent variables but unstandardized regression coefficient is reported in this study.

Additional analysis showed the mediating role of personal norms in the relationship between injunctive social norms and behavioral intentions (confirmed partial mediation). Hence, the results from this study supported H1, H2, H3 and H4, and were in line with the previous research by Doran and Larsen (2016) as mentioned above.

## **6.2 The role of social and personal norms in explaining behavioral intentions**

People are highly influenced by the social norms they see around them, hence, new behaviors, prompted by interventions, need to become social norms to be properly successful and effective (Sustainable Consumption Roundtable, 2006). For consumers to form a more favorable mindset towards environmentally friendly products, consumer education about the environment is very important. One of possible ways to encourage environmentally friendly purchasing behavior is communication initiatives, that focuses on different kinds of environmentally conscious products and environmental support campaigns strategies (Cheah & Phau, 2011). The report by the Sustainable Consumption Roundtable (2006) concludes its

primary research into a range of possible solutions and approaches to sustainable consumption. One of the suggestions was that paying to deal with carbon offsetting could become a new social obligation so people would feel ashamed of not cooperating. Another one suggested that those who did not take part in the offsetting would have to sit at the back of the airplane. Even though this suggestion was made for airplanes, this idea shows “the challenge of creating situations in tourism where social norms can influence those with undesirable behaviors to follow the lead of those with more pro-environmental behaviors” (Miller, Rathouse, Scarles, Holmes, & Tribe, 2010, p. 631).

The role of descriptive social norms within the context of tourism has in previous research been focused on low-cost pro-environmental behavior, while Doran and Larsen’s (2016) aim was to broaden the scope of the investigation towards high-cost pro-environmental behavior (i.e. behavioral choices that involve high personal costs). Studies involving low personal costs have shown that providing descriptive information about the behavioral choices of others, increased energy conservation (Nolan et al. 2008), towel reuse at a hotel (Goldstein et al., 2008) and recycling behaviors (Schultz, 1999). The findings in this study supported Doran and Larsen’s (2016) results, that descriptive social norms are also positively associated with high-cost pro-environmental behavior. Moreover, Doran and Larsen (2016) speculated that one might consider it to be difficult or even impossible in situations to change the structural characteristics of the situation (e.g. benefits and costs). However, they suggest an alternative approach to encourage eco-friendly travelling by providing descriptive information about others’ behavioral choices. This provides valuable insight for tourism managers and leaders as the findings demonstrate the power of descriptive norms to motivate others to engage in eco-friendly travel options involving high personal cost.

Some experimental studies have shown that the interaction of descriptive and injunctive social norms influence environmental intentions. Smith et al. (2012) for instance demonstrated



that when descriptive and injunctive norms were aligned, it increased intention to engage in energy conservation but when they were not aligned, intentions to engage in the target behavior were reduced (Experiment 1). This indicated that “being told that one’s group approves of energy conservation does not motivate intentions to engage in that behavior unless one is also told that one’s group is actually engaging in energy conservation behavior”. Their results suggested that it is important to consider the alignment of descriptive and injunctive norms and the danger of misaligned normative message should not be overlooked as misaligned can undermine the effectiveness of behavior change attempts (Smith et al., 2012). This is consistent with prior research that have shown that combined normative messages which include both of these norms have stronger effect on behavior than messages only including one of these norms (Göckeritz et al., 2010; Cialdini et al., 2006; Schultz, et al., 2008). It would have been interesting to test this to see the difference of the effects between combined normative message and a message including only descriptive or injunctive social norms. This could give an idea about what is effective in creating situations in tourism where social norms can influence those with undesirable behaviors to follow the lead of those with more pro-environmental behaviors as mentioned above.

Supporting hypothesis 2, the strength of the relationship between injunctive social norms and intentions to choose eco-friendly travel options was, however, reduced and became insignificant when it was also controlled for personal norms which Doran and Larsen (2016) also found. Harland, Staats and Wilke (1999) found as well that the influence of subjective norm (i.e. comparable to injunctive norms) decreased when personal norm was entered. However, they conducted a study where personal norms were added to the theory of planned behavior to explain the intentions to perform five environmentally relevant behaviors. The results revealed that the contribution of subjective norms decreased and became insignificant in three of the five cases (i.e. use unbleached paper, reduce meat consumption and use energy-

saving light bulbs) when personal norm was entered. Ong and Musa (2011) also found that the relationship between subjective norms and responsible underwater behaviour for divers decreased when personal norm was entered.

Additional analysis suggested that personal norms mediated the effects of injunctive social norms on behavioral intentions. The study by Doran and Larsen (2016) and the one by Ong and Musa (2011) found this to be the case as well. In this study the mediation was partial, which was not surprising as Baron and Kenny (1986) suggested that partial mediation is more realistic expectation than full mediation in social sciences. The support for mediation of injunctive social norms by personal norms suggests a role of this factor in moral reasoning. This means that expectations of other tourists (at localized destination, visiting this country and/or worldwide) may not only directly influence behavioral intention, but also indirectly through their personal norms. Hence, the findings reveal the importance of both injunctive social norms and personal norms in explaining intentions to choose eco-friendly travel options. Doran and Larsen (2016) suggest that informational campaigns: (1) should attempt to influence decisions in favor of eco-friendly travel options by communicating injunctive social norms, and (2) should attempt to initiate and/or increase their internalization as personal norms by communicating social norms.

As has been mentioned before, personal norms were found to have the strongest association with behavioral intentions and additionally made the strongest contribution to explaining behavioral intentions. This highlights “the importance of considering the moral component of eco-friendly travelling” (Doran & Larsen, 2016, p. 164). Schwartz (1968; 1973) norm-activation theory (discussed in chapter 2.2 Personal norms) states that activation of a person's moral norms occurs when a person becomes aware of that his/her potential actions can threaten something the person values or the welfare of others (i.e. awareness of consequences) and when a person accepts the responsibility for these actions and their consequences (i.e.

ascription of responsibility). Doran and Larsen (2016) suggest that informational campaigns could target one or both of these factors with the purpose to strengthen personal norms, which in turn could change decisions that support eco-friendly over conventional options. Studies have shown that stronger personal normative message could be more effective in promoting pro-environmental behavior. Bolderdijk, Steg, Geller, Lehman and Postmes (2013) results suggested that the biospheric tyre-check appeal (i.e. Want to protect the environment? Check your car's tire pressure) was significantly more effective in promoting pro-environmental behavior than the economic tyre-check appeal (i.e. Want to save money? Check your car's tire pressure). They assumed that people do care about holding on to a favorable view of themselves, and may rather want to see themselves as "green" than "greedy". Furthermore, De Groot et al. (2013) studied how normative messages could encourage shoppers to use fewer free plastic bags for their shopping. They concluded that stronger personal normative message might have had stronger effect if framed as: "Show that *you* care about the environment. Re-use your bags today!" or: "Do *you* care about the environment? Re-use your bags today" instead of what they used: "We thank *you* for helping the environment by continuing to re-use your bags" (De Groot et al., 2013, p. 1839). Hence, with a strong personal normative message, the effectiveness of such message on behavior might increase even more.

However, it is unlikely for a person to knowingly be concerned about the environment or intentionally act in pro-environmental ways if he/she knows nothing about the problem or possible positive actions (Gifford & Nilsson, 2014). Some of the participants in this study pointed out that the reason for not choosing more often environmental friendly travel options is the lack of information about if the products (e.g. accommodations, tours etc.) are environmentally friendly or not. This has been discovered in other studies. In a study by Pickett-Baker and Ozaki (2008), participants indicated that they felt good when buying products that were less damaging to the environment. However, identifying these products was

sometimes difficult according to them and more information was needed on these products and the benefits on using them. Therefore, one possibility would be putting an effort into strengthening personal norms in informational campaigns to make tourists more aware of the consequences their travel has on the natural environment and emphasize tourists' responsibility to mitigate negative impacts (i.e. in accordance to the norm-activation theory), which in turn could help cultivate positive personal norms among them.

Finally, it seems important to mention that even though the information whether the participants considered themselves to be environmentally friendly was not analyzed, it might have been useful to run limited analysis. It would have, for example, been interesting to see if participants who considered themselves environmentally friendly feel stronger moral obligation towards choosing eco-friendly travel options than participants who consider themselves less environmentally friendly as studies have indicated that this might be the case. For instance, Cheah and Phau (2011) found that consumers are more likely to purchase environmentally friendly products if they have favorable attitudes towards environmentally friendly products. Minton and Rose (1997) findings indicated too that the more people are concerned about the environment, the more likely they are to purchase a product if it is made with recycled ingredients or can be recycled. When checking the regression analysis afterwards, personal norms made statistical significant unique contribution to explaining behavioral intentions (positive associations) for all groups, where the strongest contribution was for participants who considered themselves to be very environmentally friendly ( $B = .59$ ,  $p < 0.001$ ). The contribution was slightly less for participants that considered themselves to be somewhat environmentally friendly ( $B = .51$ ,  $p < 0.001$ ), as well as for participants that considered themselves to be environmentally friendly when it was convenient ( $B = .49$ ,  $p < 0.01$ ).

Even though there is no significant difference between these groups of people, it emphasized the importance of identifying the key antecedents that influence consumers' willingness to choose eco-friendly travel options and educating consumers about the environment for them to form a more favorable mindset towards environmentally friendly products (Cheah & Phau, 2011).

### **6.3 The relationship between social norms and travel choices among the three reference groups**

The differences among group means indicated that participants believed that “other tourists visiting this country” and “other tourists at localized destination” intent more strongly to choose eco-friendly travel options than “other tourists worldwide” (i.e. descriptive social norms), however, the effect size was small. No statistically significant difference in injunctive social scores for the three reference groups was found.

Furthermore, the results from the regression analysis that was run among the social norms (injunctive and descriptive social norms) and behavioral intentions in the three reference groups independently did not support H5. First, there was no significant difference between the impacts of descriptive social norms on behavioral intentions in the three groups. Second, people were more likely to plan on choosing an eco-friendly travel options when they also believed that “other tourists visiting this country” expect them to do so (i.e. injunctive social norms).

It was not possible to compare these results with other studies, as no other study was found that has compared these three different reference groups in relation to eco-friendly travel options, or in other environmentally friendly context.

However, the results were rather surprising, given that previous findings indicate that normative information about a close referent would be the most influential and that the social

identity approach indicated that the groups that individuals belong to (i.e. ingroups) will have more influence than the group that they do not belong to (i.e., outgroups) (Smith & Louis, 2008). When people believe that the commonness of a behavior is high among their referent others and they perceive more similarity with them, they are likely to engage in the behavior themselves. However, when they perceive low similarity, the behavior of others should have little effect on their own behaviors (Rimal, Lapinski, Cook, & Real, 2005).

First, it is possible that the participants did not perceive strong similarities to the other two reference groups presented (i.e., other tourists at localized destination and other tourists worldwide), resulting in that behavioral impact of injunctive social norms was only significant for the reference group “other tourists visiting this country”. Second, the influence of descriptive social norms was significant for all three reference groups but the effect did not differ, however this has been shown in experimental study. Schultz et al. (2008, experiment 3) for instance demonstrated the influence of printed normative messages designed to promote towel reuse, and showed that a specific reference group (i.e., previous guests who stayed in this room) against the generic reference group (i.e., guests at this hotel) did not differ or seem to make changes to the strength of the normative message.

Some of the previously mentioned studies that have shown that the level of perceived similarity among other and a particular person is an important variable affecting the likelihood of norm adherence (e.g., Goldstein et al., 2008; Escalas & Bettman, 2005; Smith & Louis, 2008) were experimental studies. In this study (using cross-sectional data), participants were only asked what they believed other tourists would do and what other tourists think that one ought to do. Possibly, it might bring clearer results on which of the three reference groups has the strongest normative social influence on travel choices by doing experiment in real-world contexts, which is sufficient to establish causal claims. Possible future research in relation to

which reference groups have the strongest normative social influence on travel choices will be discussed in chapter 7.

Even though H5 was not supported, based on previous studies, when implementing a social normative component, it seems important for managers and policy makers to make sure that the norms of the reference group are as situationally similar as possible to the intended audience's circumstances or environment (Goldstein et al., 2008).

#### **6.4 Implications summarized**

It is tempting to trust the findings even more as the same results have been found in prior research, that is, injunctive and descriptive social norms and personal norms are positively related to behavioural intentions. In addition, by replicating a study it contributes to increasing the generalizability and explanatory power of previous findings (Mackey, 2012). These findings are robust and have now been demonstrated in Iceland as well, with other respondents and another researcher. To make them even more robust, this study should be replicated in another context as well to be established.

The findings in this study imply that by including normative information in informational campaigns could be a promising way to encourage people to choose eco-friendly travel options, which will in return benefit the environment.

Expectations of other tourists (i.e. injunctive social norms) were shown to not only directly influence behavioral intention, but also indirectly through their personal norms. Hence, informational campaigns: (1) should attempt to influence decisions in favor of eco-friendly travel options by communicating injunctive social norms, and (2) should attempt to initiate and/or increase their internalization as personal norms by communicating social norms (Doran and Larsen, 2016). Descriptive social norms were shown to be positively associated with high-cost pro-environmental behavior as well (not only low-cost as in prior research), which

demonstrates the power of descriptive norms to motivate others to engage in eco-friendly travel options involving high personal cost. This provides valuable insight for tourism managers and leaders. In addition, even though not tested in this study, experimental studies have shown that the interaction of descriptive and injunctive social norms influence environmental intentions. This might be useful in informational campaigns to increase intention to engage in eco-friendly travel options.

As personal norms were found to make the strongest contribution to explaining behavioral intentions it emphasized the importance of activating personal norms, which according to the norm-activation theory occurs when people are aware of that their action have consequences and accepts the responsibility for their actions (Schwartz, 1968; Schwartz, 1973). Hence, informational campaigns could target one or both of these factors with the purpose to strengthen personal norms.

Finally, even though hypothesis 5 was not supported, prior research suggests that when implementing a descriptive or injunctive normative component, it is important for managers and policy makers to make sure that the norms of the reference group are as situationally similar as possible to the intended audience's circumstances or environment (Goldstein et al., 2008).



## 7 Strengths, limitations and future directions

The fact that previously validated and published questionnaire was taken from Doran and Larsen (2016) and evaluated and adapted to the context gives strength to this study. The results support the findings from the study being replicated and the current study adds knowledge about the influence of social and personal norms have on behavioural intentions in travel choices in Iceland.

There are, however, limitations to this study, which hopefully will be addressed in future research.

As mentioned earlier, the sample for this study was selected by using convenience sampling. That has some problems as it can produce very unrepresentative samples and cannot be generalized precisely to the population (Neuman, 2014). By using a random sampling technique, it would “allow us to generalize information legitimately from a few people (e.g. 1,000) to many more (e.g. several million)” (Neuman, 2014, p. 49).

Another limitation concerns the language used in the questionnaire (i.e. only English), as it was notable that participants did differ in their level of English language proficiency. Some participants notified that it was difficult for them to go through the questions as English was not their first language which might have affected the results. In addition, some questionnaires were handed in empty due to language difficulties and in other cases the researcher decided not to include some tourists as it was notable that they had limited knowledge of English when spoken. In future research, it would be possible to have the questionnaire in other languages as well.

Furthermore, as the behavioral impact of social norms did not differ between “other tourists at localized destination”, “other tourists visiting this country” and “other tourists worldwide”, there is still need for further understanding of which reference groups have the strongest normative social influence on travel choices. Doran and Larsen (2016) suggested in

their study to explore the role of for example family and friends, local residents at the destination and other tourists at the destination which might have been a better option in this case.

In this study, cross-sectional data were used to investigate the association between social and personal norms, and behavioral intentions. Even though there is empirical evidence that suggests that these norms influence behavioral intentions, cross-sectional research examines information on many cases at one point in time and hardly ever captures social processes or change (Neuman, 2014). In other words, cross-sectional data are insufficient to test for causal relationship (Doran and Larsen, 2016), hence, we are only able to suggest causal relationships based on previous findings in the literature.

In this study, participants were asked if they believed that other tourists would choose eco-friendly travel option and if they believed that other tourists expect them to do so. The previous mentioned study by Goldstein et al. (2008), tested the effectiveness of signs to encourage participation in an environmental conservation program in the real world which suggested that the norms that most closely matched one's immediate settings, situations, and circumstances was especially influential. Experimental research like this one offers the strongest tests of causal relationships compared to other social research techniques (Neuman, 2014) and could be addressed in future research as mentioned in the discussion part. One possible experiment would be doing similar to Goldstein et al. (experiment 1, 2008) experiment of effectiveness of signs asking hotel guests to participate in towel reuse program (one sign reflecting the industry standard approach and the other one conveying the descriptive norm). Instead of doing a towel reuse program, this could be done by working with e.g. tour operator that offers additional cost that goes to protecting the environment. The aim would be to investigate how two different appeals would motivate tourists to accept this additional cost. The first one would be giving them information about the company's standard approach

(information about the importance of environment protection but no explicit descriptive norm is provided). The other one would be giving them information about descriptive social norms (when they learn that most other tourists have chosen to participate in this environmental conservation program). Another experiment would be investigating how tourists will adhere to the message of a given reference group (e.g. they learn the number of tourists who have been on this specific tour that accepted this additional cost).

Furthermore, as mentioned in the discussion part, combined normative messages which includes both descriptive and injunctive social norms have been shown to have stronger effect on behavior than messages only including one of these norms. Possible experiment would be giving combined normative message about the percentage of other tourists who approved or disapproved of engaging in the environmental conservation program mentioned above and the percentage of tourists who actually engaged or did not engage in this environmental conservation program.

The explanatory power in some cases was quite high, for instance the model that includes both social and personal norms that was revealed from the regression analysis in step 2 ( $R^2 = 0.46$ ), may have occurred due to “common method variance”. Common method variance is “variance that is attributable to the measurement method rather than the constructs the measures represent” (Podsakoff, MacKenzie, Lee & Podsakoff, 2003, p. 879). The same issue of common method variance is apparent in Doran and Larsen’s (2016) study which they did not address, as the explanatory power of that same model was high as well ( $R^2 = 0.52$ ). According to Cote and Buckley (1988, as cited in Podsakoff et al., 2003) methods may have an effect and can either inflate or deflate observed relationships between constructs which may lead to incorrect conclusion and could be the case in this research. Hence, it is important to understand the sources of common method biases and when they are likely to be a problem as they can have potentially serious effects on research findings (Podsakoff et al., 2003). There

are several reasons why this source of bias might have been produced according to Podsakoff et al. (2003). The potential sources of common method biases are common rater effects (consistency motif, leniency biases, social desirability etc.), characteristics of the items of measurements (item complexity or ambiguity, scale format, negatively worded, etc.), the context of the items (item embeddedness, scale length, context-induced mood, etc.) and the effect produced by measurement context (time and location of measurement) (Podsakoff et al., 2003). Generally, there are two main ways to control for method biases which are through the design of the study's procedures and/or statistical controls (Podsakoff et al., 2003).

With procedural remedies the researcher "can identify what the measures have in common and eliminate or minimize through the design of study", but if they encounter difficulties finding procedural remedies, they can use the statistical remedies (Podsakoff et al., 2003, p. 889).

Procedural remedies can be attained by obtaining measures of the predictor and criterion variables from different sources, separate the measurement of the predictor and criterion variables, protecting respondent anonymity and by counterbalancing question order.

There are several statistical remedies that have been used. One of the most common one is Harman's single-factor test where all variables are loaded into an exploratory factor analysis and if one factor will emerge than substantial amount of common method variance is present. In this study, factor analysis showed three factors which would indicate that common method variance is not present. However, Podsakoff et al. (2003) indicates that it is more likely that multiple factors will emerge from the factor analysis, thus it is not evident that the measures are free of common method variance. Even though this procedure is widely used, they do not believe that this one will deal with the problem and points out other ways. Other techniques are, for instance, partial correlation procedure where structural parameters are examined with and without surrogate measures and multiple method factors where measures of multiple traits

using multiple methods are obtained (see Podsakoff et al., 2003, p. 890-891, for further review). Hence, there is still a change that common method variance is present.

To summarize, as all three independent variables were significantly associated with intentions to choose eco-friendly travel options, future research devoted to the promotion of eco-friendly travel options should delve more deeply in exploring how to influence descriptive and injunctive social norms and personal norms.

## 8 Conclusion

This study was aimed at better understanding how individual's differences in normative beliefs may relate to eco-friendly travel choices. The findings in this study imply that by including normative information in informational campaign could be a promising way to encourage people to choose eco-friendly travel options, which will in return benefit the environment.

Overall findings suggest that people are favorably disposed toward choosing an eco-friendly travel options when they also believe that others tourists act in similar way (i.e. descriptive social norms), that other tourists expect them to (i.e. injunctive social norms) and even more so when they feel they have a moral obligation to do so (i.e. personal norms). The importance of personal norms was revealed as (a) behavioral intentions was found to be significantly stronger associated to personal norms than with injunctive and descriptive social norm constructs and due to the (b) mediating role of personal norms in the relationship between injunctive social norms and behavioral intentions. Hence, future studies should focus on identifying factors that affect the formation of personal norms and investigate how actions can target these beliefs within the context of tourism.

Further understanding of which reference groups have the strongest normative social influence on travel choices is still needed. Especially, as (a) no significant difference between the impact of descriptive social norms on behavioral intentions in the three reference groups was found, and (b) as people were more likely to plan on choosing an eco-friendly travel options when they also believed that "other tourists visiting this country" expect them to do so (i.e. injunctive social norms) which was not in line with prior research. Future research should develop a better understanding on this matter, as it was not established in this study.

## References

- Abrams, D. and Hogg, M.A. (1990). An introduction to the social identity approach. In D. Abrams and M.A. Hogg (eds), *Social Identity Theory: Constructive and Critical Advances* (pp. 1-9). New York: Harvester Wheatsheaf.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211
- Bamberg, S., Hunecke, M., & Blöbaum, A. (2007). Social context, personal norms and the use of public transportation: Two field studies. *Journal of Environmental Psychology*, 27(3), 190-203.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.
- Bearden, W. O., & Etzel, M. J. (1982). Reference group influence on product and brand purchase decisions. *Journal of consumer research*, 9(2), 183-194.
- Biel, A., & Thøgersen, J. (2007). Activation of social norms in social dilemmas: A review of the evidence and reflections on the implications for environmental behaviour. *Journal of economic psychology*, 28(1), 93-112.
- Bolderdijk, J. W., Steg, L., Geller, E. S., Lehman, P. K., & Postmes, T. (2013). Comparing the effectiveness of monetary versus moral motives in environmental campaigning. *Nature Climate Change*, 3(4), 413-416.
- Charness, G., Gneezy, U., & Kuhn, M. A. (2012). Experimental methods: Between-subject and within-subject design. *Journal of Economic Behavior & Organization*, 81(1), 1-8.

- Cheah, I., & Phau, I. (2011). Attitudes towards environmentally friendly products: The influence of ecoliteracy, interpersonal influence and value orientation. *Marketing Intelligence & Planning*, 29(5), 452-472.
- Churchill, G. W. j. (1979). A Paradigm for Developing Better Measures of Constructs. *Journal of Marketing Research*, 16(1), 64-73.
- Cialdini, R. B. (2003). Crafting normative messages to protect the environment. *Current directions in psychological science*, 12(4), 105-109.
- Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55, 591-621.  
doi:10.1146/annurev.psych.55.090902.142015
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity, and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 151– 192). Boston: McGraw-Hill.
- Cialdini, R. B., Demaine, L. J., Sagarin, B. J., Barrett, D. W., Rhoads, K., & Winter, P. L. (2006). Managing social norms for persuasive impact. *Social influence*, 1(1), 3-15.  
doi:10.1080/15534510500181459
- Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. *Advances in experimental social psychology*, 24, 201-234.
- Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: recycling the concept of norms to reduce littering in public places. *Journal of personality and social psychology*, 58(6), 1015-1026.



- Davis, J. L., Le, B., & Coy, A. E. (2011). Building a model of commitment to the natural environment to predict ecological behavior and willingness to sacrifice. *Journal of Environmental Psychology, 31*(3), 257-265.
- De Leeuw, A., Valois, P., Ajzen, I., & Schmidt, P. (2015). Using the theory of planned behavior to identify key beliefs underlying pro-environmental behavior in high-school students: Implications for educational interventions. *Journal of Environmental Psychology, 42*, 128-138.
- Decrop, A. (1999). Tourists' decision-making and behavior processes. In Pizam, A., & Mansfeld, Y. (Ed.), *Consumer behavior in travel and tourism* (pp. 103-133). Binghamton, NY: The Haworth Hospitality Press. Retrieved February 2, 2017 from [https://books.google.is/books?hl=en&lr=&id=wVAsBgAAQBAJ&oi=fnd&pg=PA103&dq=referent+group+norms+in+tourism&ots=JHJHnvhKLn&sig=fvpGg\\_\\_KmM4iUNcAU8gj0a87gzs&redir\\_esc=y#v=onepage&q=referent%20group%20norms%20in%20tourism&f=false](https://books.google.is/books?hl=en&lr=&id=wVAsBgAAQBAJ&oi=fnd&pg=PA103&dq=referent+group+norms+in+tourism&ots=JHJHnvhKLn&sig=fvpGg__KmM4iUNcAU8gj0a87gzs&redir_esc=y#v=onepage&q=referent%20group%20norms%20in%20tourism&f=false)
- Dean, M., Raats, M. M., & Shepherd, R. (2008). Moral concerns and consumer choice of fresh and processed organic Foods. *Journal of Applied Social Psychology, 38*(8), 2088-2107.
- De Groot, J. I., Abrahamse, W., & Jones, K. (2013). Persuasive normative messages: The influence of injunctive and personal norms on using free plastic bags. *Sustainability, 5*(5), 1829-1844. Doi:10.3390/su505182
- Doran, R., & Larsen, S. (2016). The Relative Importance of Social and Personal Norms in Explaining Intentions to Choose Eco-Friendly Travel Options. *International Journal of Tourism Research, 18*(2), 159-166. doi:10.1002/jtr.2042
- Elster, J. (1989). Social Norms and Economic Theory. *Journal of Economic Perspectives, 3*(4), 99-117. doi:<http://dx.doi.org/10.1257/jep.3.4.99>

- Escalas, J. E., & Bettman, J. R. (2005). Self-construal, reference groups, and brand meaning. *Journal of consumer research*, 32(3), 378-389.
- Gifford, R., & Nilsson, A. (2014). Personal and social factors that influence pro-environmental concern and behaviour: A review. *International Journal of Psychology*, 49(3), 141-157.
- Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of consumer Research*, 35(3), 472-482.
- Gorsuch, R. L., & Ortberg, J. (1983). Moral obligation and attitudes: Their relation to behavioral intentions. *Journal of Personality and Social Psychology*, 44(5), 1025.
- Göckeritz, S., Schultz, P., Rendón, T., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2010). Descriptive normative beliefs and conservation behavior: The moderating roles of personal involvement and injunctive normative beliefs. *European Journal of Social Psychology*, 40(3), 514-523. doi:10.1002/ejsp.643
- Han, H., Hsu, L. T. J., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism management*, 31(3), 325-334.
- Harland, P., Staats, H., & Wilke, H. A. (1999). Explaining proenvironmental intention and behavior by personal norms and the theory of planned behavior1. *Journal of applied social psychology*, 29(12), 2505-2528.
- Harland, P., Staats, H., & Wilke, H. A. (2007). Situational and personality factors as direct or personal norm mediated predictors of pro-environmental behavior: Questions derived from norm-activation theory. *Basic and Applied Social Psychology*, 29(4), 323-334.

- Hassan, S. S. (2000). Determinants of market competitiveness in an environmentally sustainable tourism industry. *Journal of travel research*, 38(3), 239-245. doi:10.1177/004728750003800305
- Hedlund, T. (2011). The impact of values, environmental concern, and willingness to accept economic sacrifices to protect the environment on tourists' intentions to buy ecologically sustainable tourism alternatives. *Tourism and Hospitality Research*, 11(4), 278-288.
- Hsu, C. H., Kang, S. K., & Lam, T. (2006). Reference group influences among Chinese travelers. *Journal of Travel Research*, 44(4), 474-484.
- Iwata, O. (2002). Coping style and three psychological measures associated with environmentally responsible behavior. *Social Behavior and Personality: an international journal*, 30(7), 661-669.
- Kalafatis, S. P., Pollard, M., East, R., & Tsogas, M. H. (1999). Green marketing and Ajzen's theory of planned behaviour: a cross-market examination. *Journal of consumer marketing*, 16(5), 441-460.
- Kallgren, C. A., Reno, R. R., & Cialdini, R. B. (2000). A focus theory of normative conduct: When norms do and do not affect behavior. *Personality and social psychology bulletin*, 26(8), 1002-1012.
- Kim, H., Lee, E. J., & Hur, W. M. (2012). The normative social influence on eco-friendly consumer behavior: The moderating effect of environmental marketing claims. *Clothing and Textiles Research Journal*, 30(1), 4-18. doi:10.1177/0887302X12440875
- Kim, S. S., & Prideaux, B. (2005). Marketing implications arising from a comparative study of international pleasure tourist motivations and other travel-related characteristics of

- visitors to Korea. *Tourism Management*, 26(3), 347-357.  
doi:10.1016/j.tourman.2003.09.022
- Kim, Y. J., Njite, D., & Hancer, M. (2013). Anticipated emotion in consumers' intentions to select eco-friendly restaurants: Augmenting the theory of planned behavior. *International journal of hospitality management*, 34, 255-262.
- Kitchenham, B., & Pfleeger, S. L. (2002). Principles of survey research: part 5: populations and samples. *ACM SIGSOFT Software Engineering Notes*, 27(5), 17-20.
- Lam, T., & Hsu, C. H. (2006). Predicting behavioral intention of choosing a travel destination. *Tourism management*, 27(4), 589-599. doi:10.1016/j.tourman.2005.02.003
- Lapinski, M. K., & Rimal, R. N. (2005). An explication of social norms. *Communication Theory*, 15(2), 127-147. doi:10.1111/j.1468-2885.2005.tb00329.x
- Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of consumer marketing*, 18(6), 503-520.
- Mackey, A. (2012). Why (or why not), when and how to replicate research. In G. Porte (Ed.), *Replication research in applied linguistics* (pp. 21-46). Cambridge: Cambridge University Press.
- Miller, D. T., & Prentice, D. A. (1994). Collective errors and errors about the collective. *Personality and Social Psychology Bulletin*, 20, 541-541.
- Miller, G., Rathouse, K., Scarles, C., Holmes, K., & Tribe, J. (2010). Public understanding of sustainable tourism. *Annals of Tourism Research*, 37(3), 627-645.  
doi:10.1016/j.annals.2009.12.002

- Minton, A. P., & Rose, R. L. (1997). The effects of environmental concern on environmentally friendly consumer behavior: An exploratory study. *Journal of Business research*, 40(1), 37-48.
- Neuman, W.L. (2013). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Edinburh: Pearson.
- Neuman, W. L. (2014). *Understanding research* (New International ed.). Harlow: Pearson.
- Nigbur, D., Lyons, E., & Uzzell, D. (2010). Attitudes, norms, identity and environmental behaviour: Using an expanded theory of planned behaviour to predict participation in a kerbside recycling programme. *British Journal of Social Psychology*, 49(2), 259-284. doi:10.1348/014466609X449395
- Nolan, J. M., Schultz, P. W., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2008). Normative social influence is underdetected. *Personality and social psychology bulletin*, 34(7), 913-923. doi:10.1177/0146167208316691
- Nordlund, A. M., & Garvill, J. (2002). Value structures behind proenvironmental behavior. *Environment and Behavior*, 34(6), 740-756. doi:10.1177/001391602237244
- Nordlund, A. M., & Garvill, J. (2003). Effects of values, problem awareness, and personal norm on willingness to reduce personal car use. *Journal of environmental psychology*, 23(4), 339-347. doi:10.1016/S0272-4944(03)00037-9
- Ohtomo, S., & Hirose, Y. (2007). The dual-process of reactive and intentional decision-making involved in eco-friendly behavior. *Journal of Environmental Psychology*, 27(2), 117-125. doi:10.1016/j.jenvp.2007.01.005
- Ong, T. F., & Musa, G. (2011). An examination of recreational divers' underwater behaviour by attitude-behaviour theories. *Current issues in Tourism*, 14(8), 779-795. doi:10.1080/13683500.2010.545370

- Pallant, J. (2016). *Spss survival manual* (6th ed.). Maidenhead UK: Open University Press.
- Park, H. S. (2000). Relationships among attitudes and subjective norms: Testing the theory of reasoned action across cultures. *Communication Studies*, *51*(2), 162-175.
- Peattie, K. (2010). Green consumption: behavior and norms. *Annual review of environment and resources*, *35*, 195-228. doi:10.1146/annurev-environ-032609-094328
- Pickett-Baker, J., & Ozaki, R. (2008). Pro-environmental products: marketing influence on consumer purchase decision. *Journal of consumer marketing*, *25*(5), 281-293. doi:10.1108/07363760810890516
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, *88*(5), 879-903. doi:10.1037/0021-9010.88.5.879
- Rimal, R. N., Lapinski, M. K., Cook, R. J., & Real, K. (2005). Moving toward a theory of normative influences: How perceived benefits and similarity moderate the impact of descriptive norms on behaviors. *Journal of health communication*, *10*(5), 433-450. doi:10.1080/10810730591009880
- Schultz, P. W. (1999). Changing behavior with normative feedback interventions: A field experiment on curbside recycling. *Basic and applied social psychology*, *21*(1), 25-36.
- Schultz, P. W., Khazian, A. M., & Zaleski, A. C. (2008). Using normative social influence to promote conservation among hotel guests. *Social influence*, *3*(1), 4-23. doi:10.1080/15534510701755614
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological science*, *18*(5), 429-434.

- Schwartz, S. H. (1968). Awareness of consequences and the influence of moral norms on interpersonal behavior. *Sociometry*, 31(4), 355-369. doi:10.2307/2786399
- Schwartz, S. H. (1973). Normative explanations of helping behavior: A critique, proposal, and empirical test. *Journal of Experimental Social Psychology*, 9(4), 349-364. doi:10.1016/0022-1031(73)90071-1
- Smith, J. R., & Louis, W. R. (2008). Do as we say and as we do: The interplay of descriptive and injunctive group norms in the attitude-behaviour relationship. *British Journal of Social Psychology*, 47(4), 647-666. doi:10.1348/014466607X269748
- Smith, J. R., Louis, W. R., Terry, D. J., Greenaway, K. H., Clarke, M. R., & Cheng, X. (2012). Congruent or conflicted? The impact of injunctive and descriptive norms on environmental intentions. *Journal of Environmental Psychology*, 32(4), 353-361. doi:10.1016/j.jenvp.2012.06.001
- Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of social issues*, 56(3), 407-424. doi:10.1111/0022-4537.00175
- Sustainable Consumption Roundtable (2006). *I will if you will*. Report to the Sustainable Development Commission. Retrieved 5<sup>th</sup> of May, 2017 from <http://www.sd-commission.org.uk/publications.php?id=367>
- Thøgersen, J. (2008). Social norms and cooperation in real-life social dilemmas. *Journal of Economic Psychology*, 29(4), 458-472. doi:10.1016/j.joep.2007.12.004
- Thøgersen, J., & Ölander, F. (2006). The Dynamic Interaction of Personal Norms and Environment-Friendly Buying Behavior: A Panel Study. *Journal of Applied Social Psychology*, 36(7), 1758-1780. doi:10.1111/j.0021-9029.2006.00080.x

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. doi:10.5116/ijme.4dfb.8dfd

White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social influence in the theory of planned behaviour: The role of descriptive, injunctive, and in-group norms. *British Journal of Social Psychology*, 48(1), 135-158.



## Appendix A. The survey

My name is Berglind Kristjánsdóttir and I am studying MSc in International hospitality management at the Norwegian School of Hotel Management. Currently I am working on my master thesis, which is based on researching tourist's opinions towards environmental aspects while traveling.

Please remember there are no right or wrong answers and I can assure you that all answers will be kept anonymous.

THANK YOU FOR YOUR TIME ☺

**1. What is your gender?**

Female  Male

**2. What is your age? \_\_\_\_\_**

**3. What is your nationality: \_\_\_\_\_**

**4. What is your marital status?**

Single  In a relationship  Married  Divorced/separated  Other \_\_\_\_\_

**5. Do you have children?**

Yes  No

**6. Please indicate the highest level of education completed**

Less than secondary school  Secondary school  High school  Bachelor's degree  Master's degree  Doctorate degree  Other \_\_\_\_\_

**7. Do you consider yourself environmentally friendly?**

Very friendly  Somewhat friendly  When it's convenient  Don't really care

---

*Please answer each of the following questions by circling the number that best describes your opinion. Some of the questions may appear to be similar, but they do address somewhat different issues. Please read each question carefully.*

**In the first section, I would like to know the likelihood of you choosing eco-friendly travel options.**

How likely is it that you would ...

... pay more for a trip if this helps to protect the environment

1   2   3   4   5   6   7

Very unlikely   ○   ○   ○   ○   ○   ○   ○   Very likely



... use environmentally friendly means of transportation although this might take more time

	1	2	3	4	5	6	7	
Very unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

... use environmentally friendly means of transportation although this might be more expensive

	1	2	3	4	5	6	7	
Very unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

**In this section, I am interested in what you think the likelihood is that other tourists at localized destination expect others to choose eco-friendly travel options.**

I believe that other tourist at localized destination think that one ought ...

... to pay more for a trip if this helps to protect the environment

	1	2	3	4	5	6	7	
Very unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

... to make an effort to stay at environmentally friendly accommodation when travelling

	1	2	3	4	5	6	7	
Very unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

... to purchase environmentally friendly tourism products although this might be more expensive

	1	2	3	4	5	6	7	
Very unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

... to use environmentally friendly means of transportation although this might take more time

	1	2	3	4	5	6	7	
Very unlikely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

... to use environmentally friendly means of transportation although this might be more expensive



## Appendix B. Description of the whole sample

Characteristics	Percentage of Sample	Characteristics	Percentage of Sample
<b>Sex</b>		<b>Country</b>	
Male	46.4%	British	37.3%
Female	53.6%	American	17.9%
<b>Age</b>		Irish	6.6%
18-25	29.5%	German	6.3%
26-33	27.3%	Dutch	5.0%
34-41	9.7%	Australian	4.4%
42-49	5.0%	France	4.1%
50-57	15.4%	Hong Kong	3.4%
58-65	9.1%	Canadian	2.2%
66 and older	4.1%	Mexican	1.9%
<b>Education</b>		Spanish	1.9%
Less than secondary school	0.3%	Indian	1.9%
Secondary school	11.0%	Swedish	1.3%
High school	23.5%	Danish	0.9%
Bachelor's degree	36.7%	Belgian	0.9%
Master's degree	20.7%	Singaporeans	0.6%
Doctorate degree	3.1%	Swiss	0.6%
Other	4.7%	Polish	0.6%
<b>Marital status</b>		Austrian	0.6%
In a relationship	37.0%	Czechs	0.3%
Married	37.3%	Norwegian	0.3%
Single	23.2%	Romanian	0.3%
Divorced/separated	1.6%	Italian	0.3%
Other	0.7%	Croats	0.3%
<b>Do you have children?</b>			
Yes	34.4%		
No	65.6%		
<b>Environmentally friendly</b>			
Very friendly	27.3%		
Somewhat friendly	65.2%		
When it's convenient	7.5%		
Don't really care	0.0%		

## Appendix C. Descriptive results for the items of the constructs for the questionnaire as a whole

Instructions and items based on Doran and Larsen's (2016) study		<i>n</i>	<i>M</i>	<i>SD</i>	<i>Skewness</i>		<i>Kurtosis</i>	
					<i>Statistics</i>	<i>Std. Error</i>	<i>Statistics</i>	<i>Std. Error</i>
How likely is that you would...								
BI1	... pay more for a trip if this helps to protect the environment	319	4.59	1.42	-0.42	0.14	-0.09	0.27
BI2	... make an effort to stay at environmentally friendly accommodation when travelling	319	4.94	1.35	-0.42	0.14	-0.04	0.27
BI3	... purchase environmentally friendly tourism products although this might be more expensive	319	4.64	1.36	-0.55	0.14	0.19	0.27
BI4	... use environmentally friendly means of transportation although this might take more time	319	4.69	1.37	-0.38	0.14	-0.26	0.27
BI5	... use environmentally friendly means of transportation although this might be more expensive	319	4.50	1.27	-0.45	0.14	0.00	0.27
I believe that other tourists at localized destination / visiting this country / worldwide) would ...								
DN1	... pay more for a trip if this helps to protect the environment	319	3.90	1.35	-0.17	0.14	-0.61	0.27
DN2	... make an effort to stay at environmentally friendly accommodation when travelling	319	4.12	1.33	0.00	0.14	-0.62	0.27
DN3	... purchase environmentally friendly tourism products although this might be more expensive	319	3.95	1.30	0.19	0.14	-0.42	0.27
DN4	... use environmentally friendly means of transportation although this might take more time	319	3.98	1.36	-0.15	0.14	-0.46	0.27
DN5	... use environmentally friendly means of transportation although this might be more expensive	319	3.86	1.27	-0.09	0.14	-0.37	0.27
I believe that other tourists at localized destination / visiting this country / worldwide) think that one ought ...								
IN1	... to pay more for a trip if this helps to protect the environment	319	4.35	1.26	-0.28	0.14	-0.32	0.27
IN2	... to make an effort to stay at environmentally friendly accommodation when travelling	319	4.49	1.25	-0.24	0.14	-0.31	0.27
IN3	... to purchase environmentally friendly tourism products although this might be more expensive	319	4.31	1.26	-0.22	0.14	-0.31	0.27
IN4	... to use environmentally friendly means of transportation although this might take more time	319	4.44	1.31	-0.21	0.14	-0.28	0.27
IN5	... to use environmentally friendly means of transportation although this might be more expensive	319	4.23	1.27	-0.24	0.14	-0.25	0.27
I do feel a moral obligation ...								
PN1	... to pay more for a trip if this helps to protect the environment	319	4.82	1.34	-0.59	0.14	0.20	0.27
PN2	... to make an effort to stay at environmentally friendly accommodation when travelling	319	4.98	1.30	-0.53	0.14	0.26	0.27
PN3	... to purchase environmentally friendly tourism products although this might be more expensive	319	4.91	1.38	-0.54	0.14	-0.12	0.27
PN4	... to use environmentally friendly means of transportation although this might take more time	319	4.94	1.40	-0.46	0.14	-0.17	0.27
PN5	... to use environmentally friendly means of transportation although this might be more expensive	319	4.82	1.37	-0.36	0.14	-0.33	0.27

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

## Appendix D. Descriptive results for the items of the constructs for the three reference groups

Descriptive statistics for the reference group "other tourists at localized destination"										
Instructions and items based on Doran and Larsen's (2016) study				<i>n</i>	<i>M</i>	<i>SD</i>	<i>Skewness</i>		<i>Kurtosis</i>	
							<i>Statistics</i>	<i>Std. Error</i>	<i>Statistics</i>	<i>Std. Error</i>
How likely is that you would...										
BI1	...	pay more for a trip if this helps to protect the environment		106	4.88	1.38	-0.73	0.23	0.74	0.47
BI2	...	make an effort to stay at environmentally friendly accommodation when travelling		106	4.91	1.44	-0.70	0.23	0.29	0.47
BI3	...	purchase environmentally friendly tourism products although this might be more expensive		106	4.88	1.41	-0.70	0.23	0.38	0.47
BI4	...	use environmentally friendly means of transportation although this might take more time		106	4.63	1.44	-0.68	0.23	0.20	0.47
BI5	...	use environmentally friendly means of transportation although this might be more expensive		106	4.72	1.24	-0.69	0.23	0.89	0.47
I believe that other tourists at localized destination would ...										
DN1	...	pay more for a trip if this helps to protect the environment		106	4.02	1.35	-0.06	0.23	-0.66	0.47
DN2	...	make an effort to stay at environmentally friendly accommodation when travelling		106	4.18	1.29	-0.26	0.23	-0.64	0.47
DN3	...	purchase environmentally friendly tourism products although this might be more expensive		106	4.08	1.21	-0.03	0.23	-0.14	0.47
DN4	...	use environmentally friendly means of transportation although this might take more time		106	4.06	1.39	-0.37	0.23	-0.12	0.47
DN5	...	use environmentally friendly means of transportation although this might be more expensive		106	4.01	1.34	-0.38	0.23	-0.28	0.47
I believe that other tourists at localized destination think that one ought ...										
IN1	...	to pay more for a trip if this helps to protect the environment		106	4.42	1.31	-0.57	0.23	0.00	0.47
IN2	...	to make an effort to stay at environmentally friendly accommodation when travelling		106	4.58	1.32	-0.40	0.23	0.01	0.47
IN3	...	to purchase environmentally friendly tourism products although this might be more expensive		106	4.51	1.31	-0.47	0.23	-0.34	0.47
IN4	...	to use environmentally friendly means of transportation although this might take more time		106	4.57	1.31	-0.34	0.23	-0.13	0.47
IN5	...	to use environmentally friendly means of transportation although this might be more expensive		106	4.35	1.32	-0.39	0.23	-0.08	0.47
I do feel a moral obligation ...										
PN1	...	to pay more for a trip if this helps to protect the environment		106	5.06	1.38	-0.84	0.23	0.38	0.47
PN2	...	to make an effort to stay at environmentally friendly accommodation when travelling		106	5.22	1.37	-0.93	0.23	0.83	0.47
PN3	...	to purchase environmentally friendly tourism products although this might be more expensive		106	5.27	1.46	-0.90	0.23	0.37	0.47
PN4	...	to use environmentally friendly means of transportation although this might take more time		106	5.11	1.48	-0.87	0.23	0.37	0.47
PN5	...	to use environmentally friendly means of transportation although this might be more expensive		106	5.02	1.49	-0.66	0.23	-0.09	0.47

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

Descriptive statistics for the reference group "other tourists visiting this country"										
Instructions and items based on Doran and Larsen's (2016) study				<i>n</i>	<i>M</i>	<i>SD</i>	<i>Skewness</i>		<i>Kurtosis</i>	
							<i>Statistics</i>	<i>Std. Error</i>	<i>Statistics</i>	<i>Std. Error</i>
How likely is that you would...										
BI1	...	pay more for a trip if this helps to protect the environment		104	4.52	1.34	-0.34	0.24	0.03	0.47
BI2	...	make an effort to stay at environmentally friendly accommodation when travelling		104	4.82	1.29	-0.15	0.24	-0.07	0.47
BI3	...	purchase environmentally friendly tourism products although this might be more expensive		104	4.53	1.16	-0.84	0.24	1.39	0.47
BI4	...	use environmentally friendly means of transportation although this might take more time		104	4.68	1.26	-0.32	0.24	-0.31	0.47
BI5	...	use environmentally friendly means of transportation although this might be more expensive		104	4.38	1.17	-0.53	0.24	0.25	0.47
I believe that other tourists visiting this country would ...										
DN1	...	pay more for a trip if this helps to protect the environment		104	4.20	1.26	-0.39	0.24	-0.38	0.47
DN2	...	make an effort to stay at environmentally friendly accommodation when travelling		104	4.33	1.27	0.18	0.24	-0.79	0.47
DN3	...	purchase environmentally friendly tourism products although this might be more expensive		104	4.12	1.16	-0.23	0.24	-0.63	0.47
DN4	...	use environmentally friendly means of transportation although this might take more time		104	4.17	1.23	-0.15	0.24	-0.82	0.47
DN5	...	use environmentally friendly means of transportation although this might be more expensive		104	3.97	1.18	-0.09	0.24	-0.41	0.47
I believe that other tourists visiting this country think that one ought ...										
IN1	...	to pay more for a trip if this helps to protect the environment		104	4.44	1.22	0.01	0.24	-0.37	0.47
IN2	...	to make an effort to stay at environmentally friendly accommodation when travelling		104	4.56	1.16	-0.18	0.24	-0.31	0.47
IN3	...	to purchase environmentally friendly tourism products although this might be more expensive		104	4.38	1.21	-0.22	0.24	0.04	0.47
IN4	...	to use environmentally friendly means of transportation although this might take more time		104	4.43	1.25	-0.45	0.24	0.05	0.47
IN5	...	to use environmentally friendly means of transportation although this might be more expensive		104	4.35	1.20	-0.12	0.24	-0.28	0.47
I do feel a moral obligation ...										
PN1	...	to pay more for a trip if this helps to protect the environment		104	4.73	1.23	-0.33	0.24	-0.02	0.47
PN2	...	to make an effort to stay at environmentally friendly accommodation when travelling		104	4.91	1.20	-0.24	0.24	-0.07	0.47
PN3	...	to purchase environmentally friendly tourism products although this might be more expensive		104	4.84	1.22	-0.65	0.24	0.35	0.47
PN4	...	to use environmentally friendly means of transportation although this might take more time		104	4.78	1.36	-0.13	0.24	-0.40	0.47
PN5	...	to use environmentally friendly means of transportation although this might be more expensive		104	4.77	1.28	-0.27	0.24	-0.38	0.47

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

## Descriptive statistics for the reference group "other tourists worldwide"

Instructions and items based on Doran and Larsen's (2016) study		<i>n</i>	<i>M</i>	<i>SD</i>	<i>Skewness</i>		<i>Kurtosis</i>	
					<i>Statistics</i>	<i>Std. Error</i>	<i>Statistics</i>	<i>Std. Error</i>
How likely is that you would...								
BI1	... pay more for a trip if this helps to protect the environment	109	4.38	1.48	-0.24	0.23	-0.48	0.46
BI2	... make an effort to stay at environmentally friendly accommodation when travelling	109	5.08	1.31	-0.30	0.23	-0.44	0.46
BI3	... purchase environmentally friendly tourism products although this might be more expensive	109	4.50	1.48	-0.34	0.23	-0.41	0.46
BI4	... use environmentally friendly means of transportation although this might take more time	109	4.74	1.42	-0.13	0.23	-0.81	0.46
BI5	... use environmentally friendly means of transportation although this might be more expensive	109	4.41	1.37	-0.23	0.23	-0.59	0.46
I believe that other tourists worldwide would ...								
DN1	... pay more for a trip if this helps to protect the environment	109	3.49	1.34	-0.06	0.23	-0.66	0.46
DN2	... make an effort to stay at environmentally friendly accommodation when travelling	109	3.86	1.38	0.17	0.23	-0.47	0.46
DN3	... purchase environmentally friendly tourism products although this might be more expensive	109	3.67	1.47	0.38	0.23	-0.35	0.46
DN4	... use environmentally friendly means of transportation although this might take more time	109	3.73	1.42	0.15	0.23	-0.42	0.46
DN5	... use environmentally friendly means of transportation although this might be more expensive	109	3.61	1.27	0.23	0.23	-0.07	0.46
I believe that other tourists worldwide think that one ought ...								
IN1	... to pay more for a trip if this helps to protect the environment	109	4.19	1.26	-0.23	0.23	-0.58	0.46
IN2	... to make an effort to stay at environmentally friendly accommodation when travelling	109	4.34	1.26	-0.11	0.23	-0.60	0.46
IN3	... to purchase environmentally friendly tourism products although this might be more expensive	109	4.05	1.25	0.00	0.23	-0.16	0.46
IN4	... to use environmentally friendly means of transportation although this might take more time	109	4.33	1.35	0.08	0.23	-0.46	0.46
IN5	... to use environmentally friendly means of transportation although this might be more expensive	109	3.99	1.27	-0.17	0.23	-0.34	0.46
I do feel a moral obligation ...								
PN1	... to pay more for a trip if this helps to protect the environment	109	4.67	1.38	-0.61	0.23	0.43	0.46
PN2	... to make an effort to stay at environmentally friendly accommodation when travelling	109	4.81	1.32	-0.43	0.23	0.35	0.46
PN3	... to purchase environmentally friendly tourism products although this might be more expensive	109	4.61	1.37	-0.29	0.23	-0.36	0.46
PN4	... to use environmentally friendly means of transportation although this might take more time	109	4.93	1.35	-0.35	0.23	-0.18	0.46
PN5	... to use environmentally friendly means of transportation although this might be more expensive	109	4.68	1.33	-0.15	0.23	-0.30	0.46

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



## Appendix E. Correlation within the items of all constructs

	BI1	BI2	BI3	BI4	BI5	DN1	DN2	DN3	DN4	DN5	IN1	IN2	IN3	IN4	IN5	PN1	PN2	PN3	PN4	PN5	
BI1	1																				
BI2	.555**	1																			
BI3	.638**	.592**	1																		
BI4	.377**	.398**	.449**	1																	
BI5	.589**	.488**	.704**	.586**	1																
DN1	.436**	.286**	.323**	.194**	.359**	1															
DN2	.336**	.394**	.273**	.250**	.306**	.705**	1														
DN3	.326**	.261**	.400**	.231**	.392**	.714**	.668**	1													
DN4	.265**	.222**	.197**	.353**	.262**	.627**	.594**	.612**	1												
DN5	.344**	.318**	.344**	.203**	.418**	.698**	.659**	.705**	.732**	1											
IN1	.358**	.234**	.324**	.167**	.332**	.450**	.423**	.444**	.364**	.437**	1										
IN2	.324**	.326**	.257**	.187**	.273**	.432**	.532**	.419**	.381**	.427**	.789**	1									
IN3	.314**	.163**	.367**	.070	.316**	.418**	.361**	.552**	.329**	.459**	.754**	.671**	1								
IN4	.202**	.183**	.198**	.314**	.258**	.341**	.367**	.369**	.535**	.430**	.659**	.704**	.578**	1							
IN5	.238**	.207**	.318**	.176**	.352**	.415**	.407**	.466**	.429**	.550**	.749**	.700**	.722**	.749**	1						
PN1	.570**	.412**	.486**	.347**	.485**	.369**	.308**	.293**	.271**	.338**	.383**	.277**	.321**	.274**	.308**	1					
PN2	.528**	.502**	.458**	.409**	.432**	.336**	.343**	.296**	.360**	.359**	.335**	.379**	.285**	.362**	.300**	.748**	1				
PN3	.483**	.429**	.545**	.312**	.470**	.282**	.209**	.326**	.233**	.317**	.358**	.287**	.418**	.291**	.342**	.704**	.736**	1			
PN4	.397**	.374**	.362**	.469**	.370**	.215**	.212**	.227**	.362**	.270**	.327**	.316**	.211**	.433**	.278**	.606**	.756**	.637**	1		
PN5	.499**	.417**	.498**	.364**	.517**	.264**	.212**	.254**	.219**	.287**	.347**	.308**	.342**	.296**	.329**	.703**	.763**	.787**	.758**	1	

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

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

## Appendix F. Summary of hierarchal regression analysis for this study and Doran and Larsen's study (2016).

Summary of hierarchal regression analysis for this study				
Independent variables	Behavioural intentions			
	Step 1		Step 2	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Descriptive social norms	0.34	5.87***	0.23	4.74***
Injunctive social norms	0.16	2.79**	0.003	0.60
Personal norms			0.49	11.69***
Constant	2.63	11.43***	1.36	6.13***
Adjusted R Square	0.22		0.45	
<i>F</i>	(2, 316) =	45.24***	(3, 315) =	88.69***

Summary of hierarchal regression analysis for Doran and Larsen's (2016) study				
Independent variables	Behavioural intentions			
	Step 1		Step 2	
	$\beta$	<i>t</i>	$\beta$	<i>t</i>
Descriptive social norms	0.35	8.30***	0.14	3.69***
Injunctive social norms	0.25	5.93**	0.040	1.01
Personal norms			0.60	17.95***
Constant	2.12	17.05***	1.17	10.08***
Adjusted R Square	0.30		0.51	
<i>F</i>	(2, 735) =	160.05***	(3, 734) =	260.64***

Note: \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$

Unstandardized regression coefficient (*B*) for constant and for all independent variables for this study

Unstandardized regression coefficient (*B*) for constant, standardized regression coefficient ( $\beta$ ) for all independent variables for Doran and Larsen's (2016) study.