

# Affective and Cognitive Dimensions of Ski Destination Images. The case of Norway and the Lillehammer region.

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**ABSTRACT** To map the image foreign markets have of Norway as a winter tourist destination, and the Lillehammer region in particular, we surveyed 1000 respondents from Sweden, Denmark and Germany. We identified six key experience attributes that winter tourists seek: alpine skiing, cross country skiing, general destination criteria, children friendliness, other activities and snow. Two image-dimensions were identified: (1) friendly and safe and (2) thrilling. Danes had the highest score on the friendly and safe-dimension, while Germans scored highest on the thrilling dimension. Whereas cognitive dimensions of destination image appeared to be of overall importance to Swedes in particular, the affective dimension were strongest among German respondents. The model best explaining knowledge about the Lillehammer region included the following predictors: number of former visits to Norway during winter, home country (Swedes highest, Germans lowest) and personal interest in visiting snow destination for winter vacation. Differences between the three national markets relate to geographical and cultural distance and prior knowledge. While no large marketing challenges seem to exist in terms of mismatch between images held and destination characteristics, an untapped potential exists, especially with respect to German travelers, from developing marketing strategies that more clearly addresses different preferences between these main markets.

**Keywords:** Destination image, segmentation, alpine resorts, winter tourism.

## Introduction

Despite the importance of winter and skiing holidays within many Norwegian destinations, research on destination images in the major markets seems to be absent. While some scholars have paid attention to polar or arctic tourism in Nordic countries (Falk & Vieru, 2016; Grenier, 2007; Heimtun, 2015; Müller et al., 2013; Tangeland et al., 2013), these studies do not deal per se with winter destinations where ski resorts are the mainstay nor with destination images.

The ultimate goal of marketing tourism destinations is to attract tourists by influencing their travel choices and decision-making processes. Destination image is commonly accepted as an important aspect in successful tourism development and destination marketing due to its impact on both supply and demand-side aspects of marketing (Hallmann et al., 2014). Regarding increased global competition and changing tourist motivations, communicating a positive destination image, has subsequently become the top priority in successful tourism management and destination marketing (Konecnik, 2002; Molina et al., 2010).

The region of Lillehammer in Norway is one of the major winter destinations in Scandinavia, with an average of nearly 450,000 annual winter visitor nights (December-April) over the last five years. In addition to domestic tourists (5-yr average: 350 067) accounting for 79 % of visitors, Danes (5-yr average: 53 402) account for 12 % of visitors, Swedes (5-yr average: 23 812) account for 5.4 % of visitors, and Germans (5-yr average: 15 597) account for 3.5 % of the visitors. The destination partly competes with other Norwegian destinations and partly with European destinations, for example the Alps, especially in regard to non-domestic visitors. Since the end of 1990's, the Lillehammer region has experienced a strong decline in winter visitor numbers and thus the need of new strategies to attract visitors<sup>2</sup>

Generally, few studies have investigated winter/skiing tourists destination choices, preferences and images (Gilbert & Hudson, 2000; D. Kim & Perdue, 2011; Pröbstl-Haider & Haider, 2013), and such research is more or less absent with respect to Scandinavian winter destinations. In exploring how destination image as multidimensional concept has an impact on tourists' choices of winter sports destination and intentions to revisit the destinations (Hallmann et al., 2014), this article contributes to a better understanding of market

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<sup>2</sup> Some neighbouring counties, such as Buskerud and Hedmark (with destinations such as Hemsedal and Trysil), had a slight increase. Trøndelag (including Oppdal) has had a slight decrease in visitors during the first decade of 2000. Oppland, including Lillehammer, had a rather strong decline from yr 2000 until season 2013/14. This is an Accepted Manuscript of an article published by Taylor & Francis in *Scandinavian Journal of Hospitality and Tourism* on 25.04.2017 available online: <http://www.tandfonline.com/10.1080/15022250.2017.1318715>

preferences and images, which is needed to develop more effective and targeted marketing and destination development (Priporas et al., 2015).

We surveyed potential visitors from Sweden, Denmark and Germany to explore what images people within these three different national markets, regardless of previous visitor experience, have of Norway as a winter destination and, more specifically, of the Lillehammer region as winter tourist destination.

We define destination image as the sum of the knowledge, beliefs, ideas, and impressions that a person has of a destination (Baloglu & McCleary, 1999; Crompton, 1979). Tourists travel to a place because they associate certain benefits and outcomes to the destination (Garms et al., 2016; Tangeland, 2011b). Within the tourism literature, these benefits are often referred to as pull motivation factors (Klenosky, 2002). It is the sum of these benefits that motivates tourist to travel somewhere (Tangeland, 2011b). Knowing this, the ways in which tourist destination's images are related to the various benefits tourists seek (Baloglu & McCleary, 1999), such as stable snow conditions at ski resorts, or to evaluations of how safe and secure it is to travel to a certain destination (Sonmez, 1998; Tasci & Boyle, 2010) are crucial questions.

Based on the literature, it can be hypothesized that there are some variation between the three markets of Swedish, Danish and German tourists as to what kinds of images they hold of Norway, and what benefits they look for (Garms et al., 2016; Mehmetoglu, 2007; Tangeland, 2011a). These differences might be related to knowledge of the destination, to geographical and cultural distance to the destination (Frias et al., 2012; Jensen et al., 2015), to former experience with the destination, and to the extent to which attributes are sought by skiing specialists or by a generalist winter tourists (D. Kim, 2010). While specialists might mostly be concerned with attributes that strictly relates to skiing opportunities, generalists might be more inclined to emphasis attributes that relate to a wider set of activities, such as general ambience, exotic nature, family friendliness, etc (Konu et al., 2011; Varley & Semple, 2015). Variances such as these underline the importance of paying attention to the multidimensionality of destination images (Baloglu & McCleary, 1999; Beerli & Martin, 2004). The dynamic and reciprocal interaction between cognitive beliefs and knowledge, with a focus on the functional attributes of the destination, and the affective and emotional components involved in processing of images are crucial.

### **Destination Image**

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Recognizing the images tourists have of a destination is seen as important in identifying the strengths and weaknesses of destinations in order to improve product development and marketing (San Martín & Del Bosque, 2008). On the other hand, images of destinations provide limited information about destinations as they are often stereotypical in nature and represent a gross simplification of reality (Kotler & Gertner, 2002). Since consumers generally are offered various destination choices that provide similar features (such as quality accommodations, beautiful scenic views, clean beaches, attractive skiing slopes, etc.), tourist destinations face the additional challenge of tourists who are looking for novel experiences (Urry, 1990). Whereas a physical product can be easily modified, a place as a product is a large entity that is represented by various material and non-material elements (Florek, 2005). While the cognitive dimension of destination image has been examined extensively (S. S. Kim et al., 2009), more and more scholars are acknowledging the multidimensionality of destination image (D. Kim, 2010; Ren & Blichfeldt, 2011). Recently, several studies have focused on how tourists' cognitive evaluation of destination are combined with affective aspects, in particular when images are directed at the non-material or intangible aspects of destinations (see e.g. Pike & Ryan, 2004; San Martín & Del Bosque, 2008; Kim & Perdue 2011). Destination images should accordingly be seen as constructs consisting of both a cognitive domain (perceptual, mental representations of knowledge) and an affective (evaluative, emotional) domain (Echtner & Ritchie, 1993). The cognitive domain concerns information processing and/or experience based knowledge and beliefs about functional attributes of a destination (Baloglu & McCleary, 1999; Pike & Ryan, 2004), whereas the affective domain is related to emotional responses (feelings) and evaluations of the destination and the experiences provided there (Baloglu & Brinberg, 1997; Beerli & Martin, 2004). Baloglu & McCleary (1999) found that cognitive items were the most differentiating elements in the visitor and non-visitor segments, while affective items were discerned in the visitor segments. Destination image hence represents the total impression of cognitive and affective evaluations (Baloglu & McCleary, 1999; Hosany et al., 2006; Tasci et al., 2007).

With respect to skiing destinations, research on destination images tends to rely solely on cognitive attributes (i.e. snow conditions), and consequently tends to disregard the affective dimension and how it might have different influences on a consumer's behavior depending on the availability of processing information resources (D. Kim & Perdue, 2011).

For example, tourists' past travel behaviors, including previous visits and activity experiences, may influence destination image formation and variation (Beerli & Martin, 2004; Vogt &

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Andereck, 2003). Tourists who have previous experience with the destination and/or are well-acquainted with the activities the destinations is associated with tend to elaborate information about the destination more along the cognitive dimension compared to those with less experience (Alba & Hutchinson, 1987; Sirgy & Su, 2000). For instance, experienced ski tourists are better able to evaluate destination images cognitively while less experienced skiers are more inclined to evaluate a destination image affectively (D. Kim & Perdue, 2011), because the evaluation is related to the skier's degree of skill acquisition and previous experience (Richards, 1996). Implicitly, the importance of cognitive image factors increases with increasing levels of skiing experience.

It is subsequently important to investigate carefully as to what extent cognitive and affective dimensions contribute to the image that dominates within various tourist segments, and to find explanations for variance between the segments in these respects.

Since the limited research on winter-sport destinations tends to understate the affective domain (D. Kim & Perdue, 2011) an important aim of this article is to illuminate to what extent this domain is included in the destination images as well. Hence, we pose the following research questions (RQ):

RQ1: What is Norway's image as a winter destination among previous and future customers in Sweden, Denmark and Germany?

RQ2: How do the various cognitive and affective components contribute to these images?

RQ 3: What experience attributes do winter tourists seek in general, and what are the most notable differences between these markets?

RQ4: In what sense are the destination images influenced by prior knowledge and visits to the destination?

RQ5: On the ground of findings in RQ 1 to 4, what can be identified as important attributes for attracting guests to the Lillehammer-region?

## **Study Area**

The Lillehammer region (Figure 1) is among the areas in central Norway with the most stable snow conditions and one of the major winter destinations in Norway. The annual number of winter season overnight stays in the Lillehammer region are in the range of 350 000 – 400 000, comprising 80-90 % of the winter tourism in Oppland county (Figure 1). During the 2015 winter season, there was a 11 % increase in number of guest nights compared to the 2013/14 winter season (Gjesdal, 2016).

**<figure 1 about here>**

The resorts within this region range from approximately 200 – 1 100 meters above sea level. The region is comprised of several tourist resorts located at varying distances from the town of Lillehammer. Most significant are the resorts of Nordseter, Sjusjøen, Kvitfjell, Hafjell, Skeikampen and Gålå, in addition to the town of Lillehammer itself (Table 1).

**<Table 1 about here>**

The two core alpine ski resorts are Hafjell and Kvitfjell. These two resorts attract the major share of alpine skiing tourists and provide slopes adapted to the entire range skills and experiences, ranging from green to black slopes (from beginners to experienced skiers). Smaller ski resorts such as Skeikampen, Gålå and Sjusjøen do not cover the same variety in slopes, and these primarily attracts cross-country ski tourists.

## **Methods**

### *Sampling and survey design*

Participants were selected from the polling/survey company Norstat's (www.norstatgroup.com) consumer panels in Sweden, Denmark and Germany in autumn 2012. These panels are not open for self-registration and they are managed in a strict way to ensure representativeness. Norstat's consumer panels are certified by the ISO 9001: 2008 standard. As a first step, a computer assisted telephone interview (CATI) asked the respondents if they *regularly*, *occasionally* or *never* consider visiting a place with snow for winter holidays/weekends. The group who responded that they never would visit a place with snow for winter holidays were then excluded from the gross study population. In the second

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step, an internet survey was sent to a representative sample of those indicating that they regularly or occasionally considered going on winter/skiing holidays. The sampling procedure yielded approximately 1000 respondents each from Sweden (n=1006), Denmark (n=1000) and Germany (n=1001), a total of 3007 respondents.

The survey consisted of questions related to winter tourism behavior (including whether they preferred to visit places for skiing in wintertime), visitor knowledge about ski destinations in Norway, criteria for their choices of destinations, and preferences for activities such as cross-country or alpine skiing and accommodation preferences. Background variables were, among others, age, gender, number and age of children, the household's total income and the respondent's education level. Questions were constructed to fit either a 7-point bipolar scale (e.g. 1= very unlikely – 7=very likely), binominal responses (yes-no), or continuous measures (e.g. self-reported number of former visits to Norway).

Regarding what benefits tourists seek, 22 items (nine criteria and 11 activities, see table 3) were listed. Respondents scored the statement on a scale from 1= not important at all, 7 = very important. The choice of criteria and activities was built on similar studies (D. Kim & Perdue, 2011; Konu et al., 2011).

The image of Norway as a winter destination was mapped using a modified version of the attributes identified by Beerli & Martin (2004). Respondents scored 11 statements (six cognitive and 5 affective) about the country (table 4) on a scale from 1= totally disagree to 7= agree very much.

The cognitive domain of a destination's image relates to factual knowledge or beliefs about practical issues (e.g. price level, quality and choices of accommodation, catering, slopes, and security measures) and functional attributes of a destination. Six items were used; *Snow conditions*, *price level*, to what extent destinations provide facilities adapted to the needs of travelling families (*family friendly*, *safe country to visit*), the degree to which skiing slopes or tracks represents *challenges* in terms of skiing abilities, and whether the destination is *interesting and unique* in the sense that it features activities and experiences that is not available in most other winter destinations (such as dog sledding), were accordingly chosen as dimensions of the cognitive domain.

The affective domain concerns how feelings and emotions are related to questions such as ambience or exotic experiences (see e.g. Kim & Perdue, 2011). Since the affective

domain refers to the feelings potential tourists have toward what they believe destinations offer, this part of the destination image involves intangible aspects (Baloglu & Brinberg, 1997). Five items were used; Beautiful nature, good atmosphere, relaxing and peaceful, excitement, and experience of exotic climate were hence chosen as affective dimensions in this study.

### *Segmentation*

Since our focus was to identify the general image of Norway as a winter vacation destination and knowledge of the Lillehammer area in particular, we used an *a priori* segmentation approach (Mill & Morrison, 2009). Country and life stage (Tangeland & Aas, 2011) were the main segmentation variables, where country was also used as an indicator for travel distance and cultural differences. Swedish respondents live closer to the Lillehammer area compared to respondents from Denmark, while Germans have longer distance to travel than the Danes.

Former visits to Norway during the winter season were grouped into four categories: no former visits, once, 2-4 times and 5 times or more. The “knowledge of the Lillehammer area” descriptor was constructed by summing up the number of resorts in this region that were known for the respondents (6 resorts were defined as the “Lillehammer area”, see Figure 1).

We made use of the age of adult and of children to segment the respondents into life stages. Children were divided into two categories of 0-12 years of age and 13-18 years of age. Age was classified in relation to the lifecycle concept, where age  $\leq 29$  years is assumed to be “younger” respondents without family or children in the household (Life stage 1). Life stage 2 is age between 30-44 years, and are respondents often with children of 0-12 years of age in the household or a recently established family. Age 45-60 years is families with teenagers and young adults (13-18 y) (Life stage 3), and age  $\geq 61$  years are families with grown children/without children in the household (Life stage 4).

### *Analyses*

We analyzed what benefits tourists seek at a winter holiday destination and the image of Norway as a winter destination by using an exploratory factor analysis, with Principal Axis Factoring (PAF) as the estimation method (de Winter & Dodou, 2012; Russell, 2002). Promax rotation was used when analyzing Norway’s image as a winter destination because this

rotation method allows dimensions to be correlated (see results). Varimax rotation was chosen. This is an Accepted Manuscript of an article published by Taylor & Francis in Scandinavian Journal of Hospitality and Tourism on 25.04.2017 available online: <http://www.tandfonline.com/10.1080/15022250.2017.1318715>

when analyzing what tourists seek at a winter holiday destination because extracted dimensions were less correlated. We extracted factors with eigenvalues greater than 1. All items (statements) in each dimension with factor loadings  $> 0.3$  were kept in further analysis. We tested the reliability of each dimension by using Cronbach's alpha ( $\alpha$ ) where values  $< 0.7$  was considered acceptable reliability (Nunnally & Bernstein, 1994; Vaske, 2008).

A factor score for each respondent and dimension identified from the factor analysis was calculated as the respondents sum score from items included in the specific dimension divided by the number of items per dimension ( $(\sum \text{var}_a + \text{var}_b + \text{var}_c \dots_n) / n \text{Var}$ ) and used as a descriptor of the respondent along the dimension axis (Scale range: 1-7). We used the same procedure to calculate the cognitive and affective index scores, based on cognitive and affective items for evaluating the image of Norway.

For analyzing differences in the cognitive and affective images of Norway, we used a one-way analysis of variance. Predictor variables was country, number of former visits to Norway during winter and life stage. The procedure was performed separately for each dimension. We used Tamhanes (T2) – post hoc test if the test of homogeneity of variance was significant. For parameters with equal variance, we used the Tukey HSD as post-hoc test.

We used knowledge of the Lillehammer area (counts with range: 0-6 destinations) as response variables in a Generalized linear model (GLM) with Poisson distribution and log as link function (McCullagh & Nelder, 1989). For predictor variables, we used a descending category order for factors (hence, the lowest parameter value is redundant and fixed at zero). We used country, number of former visits to Norway during winter and interest for winter vacation in destinations with snow, life stage, and education level as factors in the full model. The cognitive and affective dimensions was covariates. We controlled for interaction effects between number of former visits to Norway and the cognitive and affective dimensions, but no such effect was found ( $p=0.196$  and  $p=0.382$ , respectively).

The respondents self-reported likelihood of visiting the Lillehammer area during winter in the next 3 years (scale: 1 = very unlikely, 7= very likely) was used as a response variable with life stage, interest for winter vacation in destinations with snow, number of former visits to Norway during winter and country as factors in a GLM with normal distribution and identity as link function. The cognitive and affective dimensions scores were

covariates. For predictor variables, we used a descending category order for factors. We controlled for interaction effects between number of former visits to Norway and the cognitive and affective dimensions, but no such effect was found ( $p=0.740$  and  $p=.337$ , respectively).

For both GLM models described above, we followed the principle of parsimony. We started out with the full model, and used a backward selection procedure where we manually removed the least significant factor in each step of running the model. The final models consisted only of significant parameters.

Statistical analyses were conducted with IBM SPSS statistics software ver. 22, using null hypothesis testing ( $p < .05$ ).

## Results

### *Descriptives*

Overall, 54.1 % of the respondents had never visited Norway during winter. Only 15.5 % had visited the country once, 17.6 % had been in Norway 2-4 times and 12.8 % had been here 5 times or more during winter (Table 2). As expected due to the travel distance, destination knowledge and existing market shares in Lillehammer, Germans had the lowest proportion of respondents who had visited Norway (20.9 %), while Danish respondents had the highest proportion (68.7 %). The Danish visitors were also the segment with most former visits, as 50.3 % had visited Norway two times or more during winter, compared to 28.2 % of the Swedes and 10.8 % of the Germans (Table 2).

Whereas Swedish and Danish respondents had quite similar knowledge level about the Lillehammer region (Mean score ( $M$ ) = 1.24 and  $M$  = 1.25), the area was less known among the Germans ( $M$  = .71). For both Swedish and Danish respondents, around 30 % added to the group labeled as “knowledgeable”, compared to 9 % of the Germans. The difference in knowledge about the Lillehammer region were significant between these countries ( $F_{2, 3004} = 83.55$ ,  $p=0.001$ ). Among the respondents, 62 % ( $n= 1871$ ) reported to have knowledge about the Lillehammer region as a ski-destination, where 39 % ( $n= 1182$ ) only reported to have knowledge about the Lillehammer area, and additionally 23 % ( $n= 689$ ) reported to have

knowledge about other destinations in the region. Kvitfjell alpine area appeared to be more known (n=488) than Hafjell alpine area (n=410) among the respondents.

Demographic variables such as age, number of adults in the household, proportion of respondents without children and average number of children were quite similar among countries, but Swedish respondents had a slightly higher average age than Danish and German respondents (Table 2). Level of education and gross income in the household were also quite similar among Swedish and Danish respondents, but notably lower among German respondents. This difference probably reflects general variances between the nations, as the levels of education and income over-all are higher in the Scandinavian countries compared to Germany.<sup>3</sup>

*<Table 2 about here>*

*Norway's image as a winter destination (RQ1)*

The PAF solution extracted two factors, and explained 51.7 % of the variance (Table 3). The first factor explained 41.3 % of the variance and related to statements about good atmosphere, friendly and safe country. The second factor related to statements regarding opportunities for thrilling experiences, explaining additional 10.4 % of variance. Both factors had satisfying reliability ( $\alpha = 0.845$  and  $0.717$ , respectively), but the factor correlation was somewhat high (0.587).

Statements with the highest mean score values were related to factor 1 which we labeled as “Friendly and safe”, and the lowest mean score values was related to factor 2, labeled as “Thrilling” (Table 3). Highest level of agreement was found for statements like “ a country with beautiful nature”, “ a country which is safe to visit” and “ a country with good atmosphere for winter sport”, while statements like “exotic climate”, “challenging” and “exciting” had lowest level of agreement.

We found significant differences between countries when comparing factor scores. The “Friendly and safe” factor ( $F_{2,2276}=3.01$ ,  $p=0.045$ ) was only significantly different between Swedish and Danish respondents with Danish respondents rating this highest, while the “Thrilling” factor ( $F_{2,2464}=93.87$ ,  $p=0.001$ ) was significantly different between all

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<sup>3</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Educational\\_attainment\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Educational_attainment_statistics)

combinations of countries (for details see Table 3), with increasing score with increasing distance from Norway. Consequently, Germans' image of Norway as a skiing destination focused more on "thrilling" expectations than that of Swedes.

< **Table 3 about here** >

#### *The Cognitive and Affective image of Norway (RQ2)*

Items used to calculate the Affective and the Cognitive index scores (hereafter labeled as image) had acceptable reliability ( $\alpha=0.66$  and  $0.74$ , respectively). However,  $\alpha$ -values increased to  $0.76$  if we removed the cognitive item "an expensive country to visit". Removal of the affective item "Exotic climate" would increase the  $\alpha$ -value up to  $0.79$ . We chose to keep all variables in the further analysis. Significant differences between countries were identified on both the cognitive ( $F_{2,2271}=47.11$ ,  $p=0.001$ ) and affective ( $F_{2,2458}=5.87$ ,  $p=0.003$ ) dimension (Table 3). The affective image (index score) increased slightly with distance, from Swedes ( $5.24$ ), via Danes ( $5.30$ ) to Germans ( $5.38$ ). The post-hoc test showed that the only significant difference in affective image was between Swedes and Germans ( $p=0.002$ ). The Cognitive image followed the same pattern; Swedes ( $5.31$ ), Danes ( $5.64$ ) and Germans ( $5.71$ ). The post hoc test was not significant between Danes and Germans ( $p=0.307$ ), but significant at  $p<0.001$  for all other combinations.

We found no significant effect ( $F_{3,2007}=0.93$ ,  $p=0.425$ ) of former visits to Norway on the cognitive image, while there was significant differences on the affective image ( $F_{3,2181}=7.23$ ,  $p=0.001$ ). The affective image increased slightly with number of former visits. The post-hoc test gave significant differences in the affective image between those with no former visits (mean score:  $5.25$ ) and those with 5 visits or more (mean score:  $5.49$ ,  $p=0.001$ ) and for one former visit (mean score:  $5.32$ ) and those with 5 visits or more ( $p=0.05$ ).

Age groups showed consistent patterns of the Cognitive ( $F_{3,2270}=22.39$ ,  $p=0.001$ ) and affective ( $F_{3,2457}=15.02$ ,  $p=0.001$ ) image of Norway, where the two youngest age groups (<29 y, 30-44 y) scored significantly lower than the two oldest age groups (45-60,  $\geq 61$  y), with  $p < 0.001$  for all those combinations.

*What experience attributes do winter tourists seek in general, and what are the most notable differences between these markets (RQ3)?*

The PAF analysis explained overall 70.4 % of the variance (Table 4) and identified 6 factors as key experience attributes. Cronbach's alpha values for each factor were considered acceptable ( $\alpha$ : 0.879-0.663). First, the non-skiing activities like visiting cultural/historical attractions, doing activities related to being in nature explained 17 % of the variance. Swedish and Danish respondents had significantly lower average scores compared to Germans. Various forms of alpine or cross country skiing comprised respectively 12.3 % and 12.2 % of the variation, where Germans had significantly lower scores than Swedes and Danes regarding alpine skiing and Danes had significantly lower scores than Swedes and Germans regarding cross-country skiing. General destination criteria like price level, travel time and how safe the destination is comprised 10.7 % of the variation. Danes and Swedes had a significantly lower score than the Germans. Swedes had significantly lower scores than Germans and Danes on the past experiences and how children friendly the destination is factor, which explained 9.3 % of the variation. Finally, a stable winter climate and snow guarantee comprised 8.9 % of the variation and Germans had significantly lower scores than Danes and Swedes (Table 4).

< **Table 4 about here** >

#### *Knowledge about the Lillehammer area (RQ4)*

The final model included parameters as shown in Table 5. For Country, as a dummy for travel distance, the estimated marginal means (EMM) and slope (B) showed a weak, negative relationship, indicating reduced knowledge by increasing distance from home country to Norway. Denmark was not significant different from Sweden ( $p=0.079$ ). The winter vacation slope (B) and EMM indicates increasing knowledge about the Lillehammer area by increasing interest for taking winter/skiing holidays and the difference between all groups was significant ( $p=0.002$  and  $p=0.001$ , respectively). Number of former visits to Norway during winter showed a weak increase in knowledge about the Lillehammer area with increasing number of visits to Norway during winter, except the group who had visited Norway once who had a non-significant, negative slope ( $B=-0.085$ ). The categories "2-4 former visits" and " $\geq 5$  former visits" showed a positive, significant ( $p=0.048$  and  $P=0.001$ , respectively) trend. The cognitive dimension image of Norway as a winter vacation

destination was moderate positively and significant associated with increasing knowledge about the Lillehammer area (B=0.055, p=0.039).

< **Table 5 about here** >

*The likelihood of visiting the Lillehammer region during winter in the future (RQ5) important attributes for attracting guests to the Lillehammer-region?*

The final model included parameters as shown in Table 6. Significant difference was found among all countries. Swedish respondents had lowest EMM (3.07), then Danish (EMM: 3.62) and, surprisingly, German respondents had highest EMM (3.86) when reporting the likelihood for visiting the Lillehammer region during winter the next three years. There was no significant differences among life stages, although the parameter appeared to be significant in the model (p=0.002). However, the EMM was lowest for the  $\geq 61$  years category and highest for the 30-44 years category, indicating higher probability to visit Lillehammer for the latter category. Increasing number of former visits showed increasing likelihood for visiting the area, and the difference was significant between all categories. The affective dimension showed a strong positive relationship with the likelihood of visiting the Lillehammer area during winter the next three years, meaning that those with a high affective image score were more likely to visit Lillehammer.

< **Table 6 about here** >

## **Discussion**

The respondents of all three nations were quite similar with respect to demographic characteristics. Danish tourists preferred alpine skiing more than cross-country skiing, whereas skiing preferences were fairly equally divided among the Swedish and German respondents respectively.

In general the image of Norway as a winter destination relates more to nature experiences, safety and ambience, and less to factors such as being exotic, challenging and

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exiting. The latter components weighted more, however, the greater the geographical and cultural distance. It is reasonable to assume that these factors imply less experience with and knowledge of Norway as a winter destination. Several studies underline how past experiences with a destination imply that the cognitive domain tend to dominate destination images, and that the affective domain is more prominent in the destination image of those without prior experience (Alba & Hutchinson, 1987; Sirgy & Su, 2000; Beerli & Martin 2004). Former studies have also emphasized that geographical and cultural distance may influence destination images strongly in the sense that cognitive dimensions become more noticeable the greater the proximity is, whereas a generalist's approach that often implies the dominance of affective domains seem be prominent when people live further away (Huang et al., 2013; Jensen et al., 2015; Kislali et al., 2016; Obenour et al., 2005). In the present case, former visits did not affect the score on cognitive dimensions in the respondent's images of the Lillehammer region as a destination. The overall results indicated nevertheless that the cognitive domain was more dominant among Germans and least among the Swedes. Even though Germans valued stable snow conditions (Table 4), they had the lowest score on the snow –factor, which includes the items “stable winter climate” and “snow guarantee” in table 3. Danes and Swedes were more preoccupied than Germans of issues that directly addressed alpine skiing activities. Interestingly, Germans and Swedes rated cross country skiing higher than Danes (Table 4).

This can possibly be explained by Germans being more preoccupied with dimensions belonging to the affective domain, compared to the Scandinavian respondents. In particular, they emphasised the opportunities of experiencing relaxation, peacefulness and exciting environments. One possible explanation may be that Germans being more interested in activities that are not directly related to skiing, such as visiting cultural/historical attractions, snowshoeing, and dog sledding on the winter holiday destination. In addition, Germans were more concerned with the general criteria of accommodation, price level, safety and travel time, which corresponds well to the study of Hallmann et al. (2014) of how sport tourists perceive ski destinations in the alps. It is also reasons to believe that Germans are more familiar with winter resorts in the Alps region compared to the two other nationalities, and that this forms a backdrop for how their destination image of the Lillehammer region takes shape.

German respondents' inclination to request activities and experiences other than skiing might reflect the general trend of diversification of products at tourist destinations (Benur & Bramwell, 2015), but it can also possibly be explained by the apparently generalist approach of Germans. In spite of having less experience and knowledge about the destination, German respondents state to a greater extent than Swedes and Danes that they would like to visit the destination in the future. This might pertain to geographical and cultural distance, implying that the destination in question appears more exotic to the Germans, and hence something to explore in greater breadth.

### **Practical implications, limitations, further research**

While good skiing opportunities appeared to be of overall importance to both Swedes and Danes, Germans were more preoccupied with general criteria for assessing the attractiveness of the destination. The destination image of Germans also represented a greater emphasis on factors related to pleasure and safety compared to Swedish and Danish whose destinations image were more formed by expectations of thrilling experiences.

In general, most of the variation appearing in this study are related to geographical and cultural (included language) distance and to differences in prior knowledge. Germans stood out from their Nordic counterparts in that they had less experience with and knowledge of the destination. This can, at least in part, explain why Germans also showed a more predominant generalist approach to the destination compared to Swedes and Danes, whose approach turned out to be more focused on factors related specifically to skiing opportunities. This difference can help to explain why the destination image of Germans is more influenced by the affective domain and the destination image of Swedes more by the cognitive domain.

To our knowledge no comparable research has been undertaken exploring the significance of the cognitive and affective dimension in formation of the image international tourists have of Norway or destinations within Norway. Jensen & Korneliussen (2002) did not find support for their hypothesis that increased geographical distance between the target destination and the country of location of the tourists leads to increased associative reliance on general and less detailed images of that destination in their study among different nationalities concerning images of Northern Norway as a general tourist destination. As Prebensen (2007) has demonstrated, different explorative techniques used to identify tourist image perceptions of tourist destination tend to emphasize different aspects of the destination

image processes. Direct comparisons of different studies should hence be undertaken with caution.

In terms of implications for the Lillehammer region as a winter destination, the mix of family-friendly cross country and alpine skiing, in addition to a budding emergence of other activities such as snowshoeing and dog sledding, corresponds well to destination images held by the three nationalities. No large marketing challenges seem to exist in terms of mismatch between images held and destination characteristics. There might be an untapped potential with respect to German travelers, particularly because they indicate clear interest in visiting the destination in the near future in spite of having less experience with and knowledge about the destination and their destination image being formed more by the affective domain. Anyhow, it is important to target market communication towards specific markets in a way that emphasizes the specific qualities of Norway in general and the Lillehammer region more specifically, how they link to interests and preferences in the different market segments, and the differences compared to the Alps region. In this way, especially distant market segments (i.e., Germans) might develop more specific images of Norwegian destinations that more easily distinguish Norwegian destinations from European and Nordic competitors. For instance, the stronger orientation towards cross-country skiing in Swedish and German markets as opposed to the alpine skiing orientation of Danes should clearly be reflected in image-building marketing and product development.

This study has limitations in that some relevant factors are not included, such as general skiing experience and skills and previous experience with winter destinations in other parts of the Nordic countries (such as Åre in Sweden or Levi in Finland) or elsewhere in Europe. Moreover, the inclusion of other nationalities, such as the UK and Russia, could have contributed to expand the analytical potentials of the data sets. The analysis of the present data set nevertheless clearly underline the advantage of making a distinction between the cognitive and affective domains that comprise destination images. As illustrated by the analysis of this case, it can help us to disclose significant differences of destination image that dominates in different markets. Several other relevant dimensions could been included in this study, such how climate change influences the behavior and preferences of tourists (Gössling et al., 2012; Pröbstl-Haider & Haider, 2013) and how this might affect destination images in different markets given that snow conditions are fairly reliable compared to winter

destinations in many other parts of the world. Further research should also explore more the variances with respect to the various cognitive and affective dimension in different markets, and in more detail illuminate further implication for the development strategies of winter destinations such as the Lillehammer region.

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**Tables (1-6) and Figure 1 to manuscript:** The image of Norway and knowledge about the Lillehammer region as a ski destination among Swedes, Danes and German customers

**Table 1.** Descriptive characteristics of the main resorts included in the Lillehammer region. Numbers before destination names refers to Figure 1.

Destination	Km of Cross-country slopes (at site/ network)	N of alpine slopes (km)	Elevation (m.a.s.l.)
1 Gålå	230/630	15(?)	780-1148
2 Kvitfjell	140/600	29 (29)	200-1054
3 Hafjell	300/600	32 (44)	195-1030
4 Skeikampen	200/600	17 (21)	800-1123
5 Lillehammer	450/2500	-	480*-1090
6 Sjusjøen/Nordseter	350	7 (8,5)	700 - 960

\*at Birkebeineren ski – and biathlon stadium

**Table 2.** Descriptive data split by country. Mean values, standard error (SE), and distributions of some categories/scales used for the analysis (in percent).

Parameter and scale used	Description	Sweden (n=1006)	Denmark (n=1000)	Germany (n=1001)
Former visits in Norway during winter	Mean	1.99	3.65	0.54
	(± SE)	(±0.195)	(±0.199)	(±0.122)
	0 No visits (%)	54.1	31.3	79.1
	1 Once (%)	17.6	18.4	10.1
	2 2-4 times (%)	16.2	26.4	9.3
	3 ≥5 times (%)	12.1	23.9	1.5
Familiarity with destinations in the Lillehammer area	Mean	1.24	1.25	0.71
	(SE)	(0.033)	(0.042)	(0.024)
Age	Mean	47.73	43.35	43.57
	(SE)	(.529)	(.507)	(.437)
	1 ≤ 29 y (%)	18.2	25.8	19.3
	2 30-44 y (%)	26.0	30.6	32.0
	3 45-60 y (%)	26.3	23.7	37.1
	4 ≥ 61 y (%)	29.4	19.9	11.7
Number of adults in the household	Mean	1.78	1.77	1.77
	(SE)	(.013)	(.013)	(.013)
Number of children in the household	No children (%)	65.8	65.5	67.9
	1 0-12 y	1.31	1.23	1.029
	Mean (SE)	(.060)	(.051)	(.047)
	2 13-18 y	.65	.63	.66
	Mean (SE)	(.048)	(.046)	(.048)
Education level (scale: 1-4)	Mean score	2.91	2.86	2.38
	(SE)	(.030)	(.029)	(.034)
	1 Primary and lower secondary school	5.3	4.2	23.2
	2 Upper secondary school/Certificate of apprenticeship	34.9	37.0	38.9
	3 College/University (1-3 years)	23.6	27.3	15.0.
	4 College/University (> 3 years)	36.2	31.5	22.9
Gross Income in household*	Mean score	1.73	1.77	1.41
	(SE)			
	1 < 400.000 NOK (<49080 €) %	35.3	38.5	66.3
	2 401-800.000 NOK (49202-98160 €) %	56.6	45.9	27.3
	3 801-1.200.000 NOK (98282-147239 €) %	8.2	15.7	4,3
	4 >1.200.000 NOK (> 147240 €) %	-	-	1.4

\*An exchange rate of 8,15 from Norwegian currency (NOK) to Euro is used.

**Table 3.** PAF two-factor solution of statements regarding Norway as a winter destination. Letter in parentheses refers to the items used for calculating the cognitive (C) and affective (A) indexes. Factor loadings, mean score by country and total (scale: 1= totally disagree -7= agree very much). Per cent of variance explained, Cronbach's alpha for each factor and mean factor score by country are shown in the bottom of the table.

Item	Factor		Mean score			
	Friendly and Safe	Thrilling	Sweden	Denmark	Germany	Total
A country with beautiful nature (A)	<b>.949</b>	-.147	6.51	6.49	6.43	6.46
A safe country to visit (C)	<b>.937</b>	-.223	6.19	6.49	6.19	6.29
A winter sport destination with good atmosphere (A)	<b>.751</b>	.018	6.07	6.08	5.96	6.02
Relaxing, peacefulness (A)	<b>.571</b>	.267	5.42	5.85	6.09	5.78
Family friendly (C)	<b>.507</b>	.267	5.43	6.03	5.74	5.74
A country with stable snow conditions (C)	<b>.463</b>	.207	5.39	5.46	5.82	5.54
A expensive country to visit (C)	<b>.431</b>	-.105	6.22	5.61	5.54	5.75
Exciting (A)	-.011	<b>.910</b>	4.72	5.14	5.49	5.13
Interesting and unique (C)	.082	<b>.833</b>	4.88	5.20	5.79	5.29
Challenging (C)	-.023	<b>.645</b>	3.69	5.02	5.37	4.72
Exotic climate (A)	-.200	<b>.367</b>	3.28	2.91	2.88	3.08
Per cent of variance explained	41.3	10.4				
Cronbach's $\alpha$	0.845	0.717				

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Friendly and safe (mean factor score)	5.89	6.00	5.92	5.93
Thrilling (mean factor score)	4.16	4.57	4.91	4.55
Affective index (mean score)	5.24	5.30	5.38	5.31
Cognitive index (mean score)	5.31	5.64	5.71	5.56

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**Table 4.** Benefit categories – What does tourist seek at a winter holiday destination? Final factor analysis of the remaining 22 benefits connected to winter holiday destination that motivates them to travel there. Scale: 1 = Not important at all, to 7 = Very important. Mean score by country, One-way analysis of variance with Tukey HSD post hoc test, and overall mean score. SE = Std. error of total.

Factor (key experience attributes)	Loading	Eigenvalue	Variance Explained	Cronbach's Alpha	Mean				SE	ANOVA between Country	Tukey HSD
					Sweden (S)	Denmark (D)	Germany (G)	Overall			
<b>Activities:</b>	<b>3.40</b>		<b>17.01 %</b>	<b>.856</b>	<b>2.90</b>	<b>2.92</b>	<b>4.35</b>	<b>3.42</b>	<b>.031</b>	<b>.000</b>	<b>S,D&lt;G</b>
Visiting cultural / historical attractions		.853									
Snowshoeing		.815									
Dog sledding		.764									
Cultural / historical attractions		.745									
Shopping		.677									
<b>Alpine skiing:</b>	<b>2.46</b>		<b>12.31 %</b>	<b>.851</b>	<b>4.63</b>	<b>4.79</b>	<b>4.39</b>	<b>4.60</b>	<b>.030</b>	<b>.000</b>	<b>G&lt;S,D</b>
Alpine skiing, with variations in the slopes		.912									
Alpine skiing, with well groomed pistes		.895									
Alpine skiing, terrain park		.728									
<b>Cross Country:</b>	<b>2.43</b>		<b>12.16 %</b>	<b>.879</b>	<b>4.29</b>	<b>3.52</b>	<b>4.32</b>	<b>4.05</b>	<b>.035</b>	<b>.000</b>	<b>D&lt;S,G</b>
Cross Country / tour skiing, family friendly		.863									
Cross Country, adapted for training		.861									

Combination Cross Country / tour skiing and downhill skiing	.841										
<b>General Criteria:</b>	<b>2.15</b>	<b>10.72 %</b>	<b>.663</b>	<b>5.61</b>	<b>5.59</b>	<b>5.88</b>	<b>5.69</b>	<b>.016</b>	<b>.000</b>	<b>D,S&lt;G</b>	
Accommodation	.731										
Acceptable price level (on lift tickets, lodging, food / drink etc.)	.722										
The place is a safe destination	.713										
Total travel time from home	.620										
<b>Children friendly:</b>	<b>1.87</b>	<b>9.34 %</b>	<b>.666</b>	<b>3.54</b>	<b>3.73</b>	<b>3.71</b>	<b>3.66</b>	<b>.029</b>	<b>.012</b>	<b>S&lt;G,D</b>	
A child and family friendly offers	.875										
Childcare	.770										
Past experience with the area	.560										
<b>Snow:</b>	<b>1.78</b>	<b>8.89 %</b>	<b>.864</b>	<b>5.85</b>	<b>5.84</b>	<b>5.72</b>	<b>5.80</b>	<b>.020</b>	<b>.010</b>	<b>G&lt;D,S</b>	
Stable winter climate	.870										
Snow Guarantee	.834										
<b>Overall</b>		<b>70.43 %</b>									

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**Table 5.** The GZ<sub>LM</sub> model with factors describing the knowledge about the Lillehammer region. Unstandardized regression coefficients (B), standard error (S.E.), estimated marginal means for factors (EMM), test-observer value (Wald) and significance level (Sig.). Country, winter vacation frequency (Wvac), former visits to Norway during winter (FV), Cognitive= the cognitive dimension score.

	B	S.E.	EMM	Wald Chi-Square	Sig.
Intercept	-.310	.152		4.162	.041
Country: Germany	-.302	.060	1.00	25.401	.000
Country: Denmark	-.085	.049	1.24	3.094	.079
Country: Sweden	0 <sup>a</sup>	.	1.36	.	.
Wvac: I use to travel	.249	.062	1.33	16.299	.000
Wvac: It happens i travel	.169	.055	1.23	9.427	.002
Wvac: I consider to travel	0 <sup>a</sup>	.	1.04	.	.
FV: ≥ 5 times	.640	.059	1.91	116.387	.000
FV: 2-4 times	.117	.059	1.13	3.897	.048
FV: Once	-.085	.066	.052	1.627	.202
FV: Never	0 <sup>a</sup>	.	1.01	.	.
Cognitive <sup>c</sup> (Scale)	.055 1 <sup>b</sup>	.027		4.274	.039

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

c. Covariates appearing in the model are fixed at the following values: Cognitive=5,59

**Table 6.** GZ<sub>LM</sub> with factors describing the self-reported probability to visit Lillehammer region during winter the next 3 years. Unstandardized regression coefficients (B), standard error (S.E.), estimated marginal means for factors (EMM), test-observator value (Wald) and significance level (Sig.). Country, life stage (LS), former visits to Norway during winter (FV), Affective= the affective dimension score.

	B	S.E.	EMM	Wald Chi-Square	Sig.
Intercept	-.097	.263		.135	.713
Country: Germany	.795	.101	3.86	61.541	.000
Country: Denmark	.549	.095	3.62	33.483	.000
Country: Sweden	0 <sup>a</sup>	.	3.07	.	.
LS: ≥ 61 years	-.222	.131	3.27	2.853	.091
LS: 45-60 years	.075	.115	3.57	.427	.514
LS: 30-44 years	.229	.121	3.72	3.581	.058
LS: ≤ 29 years	0 <sup>a</sup>	.	3.50	.	.
FV: ≥ 5 times	1.238	.121	4.03	105.174	.000
FV: 2 – 4 times	1.079	.104	3.88	107.355	.000
FV: Once	.563	.111	3.36	25.899	.000
FV: Never	0 <sup>a</sup>	.	2.80	.	.
Affective <sup>c</sup>	.455	.047		94.465	.000
(Scale)	2.561 <sup>b</sup>	.086			

- a. Set to zero because this parameter is redundant.
- b. Maximum likelihood estimate.
- c. Covariates appearing in the model are fixed at the following values: Affective=5,32

**Figure 1.** The main ski resorts in the Lillehammer area.

