

**Customer Responses to Environmentally-Certified Hotels:  
The Moderating Effect of Environmental Consciousness on  
the Formation of Behavioral Intentions**

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Abstract:	<p>Environmental certifications are considered an extremely useful tool to promote sustainable tourism; however, little is known about customer perceptions of these schemes and how these certifications might relate to customer behavior when there are customer segments with different levels of environmental consciousness. This study develops a model that investigates the relationship between green practices, green image, environmental consciousness and the behavioral intentions of customers in a certified hotel context. The study examines the direct and moderating role of environmental consciousness in the formation of behavioral intentions based on green initiatives. To test the proposed model empirically, 502 personal surveys of hotel customers were conducted in Spain using a structured questionnaire. The findings show that customer perceptions of green practices have a directly positive effect on a hotel's green image. At the same time, this green image has directly positive effects on customer behavioral intentions toward certified hotels. The authors also found that the higher the environmental consciousness of consumers, the greater their intention to stay, to spread positive word-of-mouth and pay a premium for environmentally-certified hotels. Finally, consumer environmental consciousness also exerts a moderating effect on the causal relationship between green image and behavioral intentions.</p>

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3 **Customer Responses to Environmentally-Certified Hotels: The Moderating Effect**  
4 **of Environmental Consciousness on the Formation of Behavioral Intentions**  
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7 sustainable tourism; however, little is known about customer perceptions of these  
8 schemes and how these certifications might relate to customer behavior when there are  
9 customer segments with different levels of environmental consciousness. This study  
10 develops a model that investigates the relationship between green practices, green  
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18 customer behavioral intentions toward certified hotels. The authors also found that the  
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20 to spread positive word-of-mouth and pay a premium for environmentally-certified  
21 hotels. Finally, consumer environmental consciousness also exerts a moderating effect  
22 on the causal relationship between green image and behavioral intentions.  
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28 **Keywords:** certified hotels, hotel green practices, green image, behavioral intentions,  
29 environmental consciousness  
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32 **1. Introduction**  
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34 Environmental sustainability is fundamental for tourism competitiveness, especially  
35 from a long-term perspective (Hu & Wall, 2005). Growing environmental awareness  
36 has made customers change their attitudes and increasingly demand that industries  
37 provide products and services that are environmentally friendly and ethically correct.  
38 The tourism industry in general, and the hospitality sector in particular, are no  
39 exception. Actually, the hospitality industry faces increasing pressure to operate in a  
40 more eco-friendly manner given its negative effect on the natural environment. This  
41 pressure comes only not from externally imposed government regulations, but also from  
42 stakeholder demands, which are becoming an important stimulator. The industry's  
43 impact on the natural environment includes habitat destruction, water and energy over-  
44 consumption and soil, water and air contamination (Bohdanowicz, 2005). For these  
45 reasons, a number of stakeholders, including consumers, non-governmental  
46 organizations and activist groups, have called for the hospitality industry to actively  
47 engage in addressing environmental issues.  
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53 Hospitality managers need to admit their environmental responsibility and find effective  
54 ways to respond to these demands since perceived deficiencies in environmental  
55 management can be damaging to corporate image and profitability (Holden, 2000).  
56 Since environmental responsibility is considered to be one of the most important aspects  
57 of a tourism company's responsible behavior, hospitality companies cannot afford the  
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3 financial and reputational risk associated with the lack of environmental commitment  
4 (Mensah & Blackson, 2014). In order to promote environmental management and  
5 engage environmentally conscious consumers, more and more hotels are implementing  
6 environmental certification programs. Environmental certifications act as a means to  
7 promote the voluntary implementation of sustainability practices in hotels while  
8 distinguishing real eco-friendly companies from “green-washed” products and services  
9 (Karlsson & Dolnicar, 2016). The benefits of environmental certifications for the  
10 tourism and hospitality industry can be numerous, from eliminating environmentally  
11 harmful practices, attracting eco-friendly customers to certified hotels and providing  
12 hotel guests with accurate information about environmental performance, to increasing  
13 cost savings and developing a better knowledge of job and production systems (Geerts,  
14 2014).

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19 Environmental certifications have been the subject of many studies. Claims about the  
20 positive effect of certifications on financial performance, differentiation advantage  
21 achievement in green niche markets and the improvement of green image and reputation  
22 are well documented (Heikkurinen, 2010). Other academics have also explored the  
23 motivations for putting these programs into practice (González-Benito & González-  
24 Benito, 2005) or even the cost of implementation (Darnall & Edwards, 2006). For  
25 instance, one reason to implement these certifications is to improve relationships with  
26 the local community and have wider public relations benefits (Rowe & Higham, 2007).  
27 Studies have also explored manager and operator perceptions of these systems (Bonilla-  
28 Priego, Najera, & Font, 2011; Chan, 2013; Geerts, 2014).

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33 Despite all this research, there is insufficient evidence about customer perceptions  
34 regarding these schemes and how these certifications might relate to customer behavior  
35 when there are consumer segments with different levels of environmental  
36 consciousness. For example, although many studies report an increased understanding  
37 of environmental issues, which has been confirmed by an increase in consumer  
38 engagement in pro-environmental purchasing decisions (Chan, 2013; Di Pietro, Cao, &  
39 Partlow, 2013; Han, Hsu, Lee, & Sheu, 2011; Kang, Stein, Heo, & Lee, 2012; Millar,  
40 Mayer, & Baloglu, 2012), others maintain that the demand for environmentally-certified  
41 hotels is limited, and emphasize that little progress has been made in modifying  
42 consumer behavior (Baker, Davis, & Weaver, 2014; Levi & Park, 2011; Line & Hanks,  
43 2016). Such inconsistencies indicate only a partial understanding of the factors affecting  
44 green consumer behavior and emphasize the need for further research in this area. The  
45 authors suggest that these mixed findings may be partially ascribable to the mediating  
46 and moderating factors that significantly affect customer decision-making processes  
47 regarding green products and services.

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52 Following the conceptual framework provided by Gao, Mattila and Lee (2016) the  
53 authors of this study suggest a comprehensive model including two broad categories  
54 leading to pro-environmental behavior: internalized perceptions (e.g. environmental  
55 consciousness) and the external perceptions of the firm (e.g. perceptions of green  
56 practices and green image). As such, the present paper attempts to explore the  
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3 conditions under which customer perceptions about green practices lead to favorable  
4 behavioral intentions toward certified hotels by considering the mediating effect of  
5 green image and the direct and moderating effects of environmental consciousness.  
6 Existing studies in environmental psychology and consumer behavior have shown that  
7 green image and environmental consciousness are fundamental concepts in explaining  
8 green consumer behavior (Huang, Lin, Lai, & Lin, 2014; Jeong, Jang, Day, & Ha, 2014;  
9 Kim, 2015; Lee, Hsu, Han, & Kim, 2010; Martínez, 2015; Namkung & Jang, 2013);  
10 however, previous research has had an inclination to investigate these variables  
11 separately. It is therefore clear that hospitality theory and practice must include these  
12 essential factors as central constructs in order to explain the behavioral intentions of  
13 customers regarding green accommodation products and services to promote sustainable  
14 tourism and develop effective green marketing strategies in a hotel context.  
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19 The next section provides an overview of the effect of green practices, green image,  
20 environmental consciousness and customer behavioral intentions. The authors will then  
21 describe the methodology, including measures of variables, data collection procedures  
22 and sample characteristics. The results are then presented, followed by a discussion of  
23 theoretical and managerial implications. Finally, research limitations and future lines of  
24 research are outlined.  
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## 27 **2. Conceptual framework**

### 28 ***2.1. Green practices and green image in certified hotels***

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31 Companies show their environmental responsibility by making a green commitment in  
32 order to voluntarily adopt ecological initiatives (Castro, Amores-Salvado, & Navas-  
33 López, 2016). One of the main expressions of this green commitment is environmental  
34 certification programs. Within the context of accommodation, the implementation of  
35 environmental certifications by hotel companies is considered an essential prerequisite  
36 to attract and retain an increasing market segment of pro-environmental customers who  
37 have a preference for, and are willing to purchase, sustainable and green  
38 accommodation products (Chen & Tung, 2010). Compared to a non-certified hotel, an  
39 environmentally-certified hotel makes efforts in the areas of reducing, reusing and  
40 recycling (the three Rs), and in the key aspects of efficiency and energy (the two Es)  
41 (Gilg, Barr, & Ford, 2005).  
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46 Environmental certifications are considered to improve environmental performance by  
47 helping firms to focus on environmental management and also enhance internal  
48 supervision of environmental performance (Darnall & Sides, 2008). A number of  
49 certified hotels are devoting efforts to identifying and putting into practice the best  
50 initiatives to show their commitment to environmental preservation (Bruns-Smith, Choi,  
51 Chong, & Verma, 2015), such as installing solar panels, using polyester layers to coat  
52 windows, updating the heating systems in swimming pools, replacing electricity with  
53 gas as a source of energy for the laundry and catering services, replacing current  
54 appliances with water-efficient ones, installing greywater recycling systems that reuse  
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3 wash water, or composting organic waste to produce fertilizers (Chan, Mak, Chen,  
4 Wang, Xie, Hou, & Li, 2008).  
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6 Environmental certifications also benefit consumers by providing a guarantee of quality  
7 and reliability (Esparon, Gyuris, & Stoeckl, 2014). When adopting an official third-  
8 party environmental certification, hotel companies obtain access to the knowledge of the  
9 certification institution that provides them with personalized information about the  
10 implementation of environmental practices. Hoteliers reduce claims of “green-washing”  
11 in this way. Companies attempting to “green-wash” their corporate image selectively  
12 disclose favorable information about their environmental performance while neglecting  
13 to make negative facts public (Lyon & Maxwell, 2011). Certification bodies establish  
14 pre-defined rules and goals and assess whether the audited hotels comply with them  
15 (Font, 2002). Third-party environmental certifications therefore give credibility to  
16 claims about corporate environmental performance and sustainable practices adopted by  
17 hotel companies.  
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22 Before explaining the notion of companies’ green image and its connection with  
23 environmental initiatives in a certified hotel context, it is necessary to briefly explain the  
24 concept of overall image. To date, a precise definition of this concept has been elusive,  
25 and scholars have defined it in several ways. For instance, Bloemer and Ruyter (1998)  
26 conceptualized it as consumers’ total perceptions of the salient attributes of a firm.  
27 These authors consider overall image to be an evaluative concept about the functions of  
28 attributes of a specific object (e.g. product/service, company, etc.). Assael (1984)  
29 provides one of the most concrete definitions of overall image, presenting it as a  
30 consumer’s total perceptions of a product (or a firm) shaped by processing information  
31 from diverse sources. Previous research argues that customers can benefit from the  
32 overall image of companies as it provides them with functional, experiential and  
33 symbolic benefits (Park, Jaworski, & MacInnis, 1986). According to these authors,  
34 functional and experiential benefits correspond to product-related attributes while  
35 symbolic benefits are related to underlying psychological needs of customers, such as  
36 personal expression, and correspond to attributes that are not related to the product or  
37 service. The early works on image theory suggest that an individual’s behavior is based  
38 on a psychological or distorted representation of objective reality that exists in an  
39 individual’s mind (Martineau, 1958). Therefore, consumers’ behaviors are more likely  
40 to be determined by an image than by objective reality. In service markets, such as the  
41 hospitality industry, overall image is expected to play an important role, especially as it  
42 is difficult to differentiate products or services based on tangible quality features (Han,  
43 Hsu, & Lee, 2009).  
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51 By focusing our analysis on the environmental or green image of companies, this  
52 concept has become increasingly relevant since the 1980s, when consumers become  
53 aware of environmental issues (e.g. increased drought, habitat destruction, rising sea  
54 levels, etc.) and their consequences for the planet. Accordingly, tourism companies are  
55 developing new corporate approaches, such as green marketing strategies, to satisfy  
56 environmental requirements for customers (Polonsky, 1994). The concept of green  
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3 marketing comprises “all activities designed to generate and facilitate any exchanges  
4 intended to satisfy human needs or wants, such that the satisfaction of these needs and  
5 wants occur, with minimal detrimental impact on the natural environment” (Polonsky,  
6 1994, p. 2). Accordingly, the green marketing literature examines environmental  
7 concerns within the discipline of marketing. Prior literature suggests that companies  
8 should undertake green marketing strategies to find out customers’ green needs, to  
9 launch green products, to divide the market into different segments, to formulate green  
10 positioning strategies and to implement a green marketing mix program (Chen &  
11 Chang, 2013). Similarly, green image is more important for companies in the current  
12 environment of rising of environmental consciousness and international regulations of  
13 environmental protection, such as those operating in the tourism industry  
14 (Bohdanowicz, 2006).  
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19 Consistent with previous research, the term of green (overall) image is defined in this  
20 study as a set of perceptions of a firm in a consumer’s mind that is connected to  
21 environmental commitment and concerns (Martínez, 2015). A company’s green image  
22 thus involves the environmental or green-related attributes of the firm that its  
23 stakeholders come to perceive (Castro et al., 2016). Specifically, a hotel’s green image  
24 can be described as consumers’ mental perceptions of a particular hotel company that  
25 are linked to environmental concerns and can be expressed as a function of the most  
26 important green attributes of a particular hotel company (Jeong et al., 2014). Similarly,  
27 customers’ perceptions of the green image of a hotel can be measured by the function of  
28 green practices that are important for the evaluation of the greenness of the hotel.  
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32 A good green image acts as a clear signal of a firm’s environmental commitment toward  
33 its key stakeholders and represents an effective means to improve not only  
34 environmental differentiation but also profitability (Heikkurinen, 2010). Hospitality  
35 companies promote their green image to show their actual commitment toward  
36 sustainable issues, demonstrating to stakeholders their achievements in natural  
37 environmental protection (Wong, Lai, Shang, & Lu, 2013).  
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41 Research indicates that not only green practices but also environmental certifications  
42 can be components with which to develop the green image of a company (Boiral, 2011;  
43 Heikkurinen, 2010; Jeong et al., 2014; Namkung & Jang, 2013; Ritchie & Crouch,  
44 2003; Wong et al., 2013). These studies propose that the green practices of  
45 environmentally-certified hotels offer various opportunities, such as improved  
46 stakeholder relationships and better corporate image and reputation. In this regard,  
47 environmental initiatives make a company’s products and services unique, enhancing  
48 the firm’s green image and thus increasing demand among environmentally conscious  
49 consumers. For instance, Ritchie and Crouch (2003) demonstrate how a positive green  
50 image can be created through the adoption and implementation of environmental  
51 systems. These authors suggest that the creation and development of this image is a  
52 relevant factor in the formulation of successful marketing strategies and in company  
53 competitiveness. Similarly, Boiral (2011) reports that the adoption of environmental  
54 certification helps firms with their environmentally friendly image-building efforts. It  
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3 therefore seems obvious that these ideas should be extrapolated, and to think that green  
4 attributes in the hotel industry (e.g. recycling, energy and water conservation,  
5 environmental friendly packaging, etc.) can affect a customer's green image of a  
6 particular certified hotel. It is thus reasonable to propose the following hypothesis:  
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9 **H<sub>1</sub>**: Customer perceptions of green practices positively affect the green image of  
10 environmentally-certified hotels.  
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## 12 **2.2. Green image and customer behavioral intentions**

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14 Many scholars and practitioners in the tourism industry have shown great interest in the  
15 concept of a company's image due to its effects on customer behavioral decisions  
16 (Durna, Dedeoglu, & Balikcioglu, 2015; Han et al., 2009; Jeong et al., 2014; Lee, Hsu,  
17 Han, & Kim, 2010; Lin, Morais, & Kerstetter, 2007; Martínez, 2015; Ryu, Lee, & Kim,  
18 2012). Building positive intentions in customers is an important goal for hospitality  
19 businesses, since these intentions will ultimately increase customer retention rates and  
20 profits (Han et al., 2009). Consumer behavioral intentions represent the likelihood of  
21 consumer engagement in a specific behavior (Ajzen & Fishbein, 1980). According to  
22 Fishbein and Ajzen (1975), behavioral intentions are the closest antecedents of actual  
23 behavior when examining individual decision-making processes. This implies that  
24 scholars are able to predict specific behaviors with considerable accuracy from  
25 intentions to engage in the behavior under consideration. Behavioral intentions have  
26 been studied by examining three key dimensions: willingness to repurchase products or  
27 services from a company, to pay a premium price for these products and to recommend  
28 the company or to make positive comments about the company's services (Gao et al.,  
29 2016; Zeithaml, Berry, & Parasuraman, 1996). Consistent with these previous studies,  
30 in this study in the green hospitality context, such intentions reflect consumer intentions  
31 to stay, spread word-of-mouth or be willing to pay a premium price to stay at an  
32 environmentally-certified hotel.  
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39 Previous studies support the effect of the green image of companies on customer  
40 behavior. In the hospitality setting, Lee et al. (2010) support the relationship between a  
41 green cognitive and affective image and customer behavioral intentions (in terms of  
42 intention to revisit, intention to offer positive recommendations and willingness to pay a  
43 premium). Liu, Wong, Shi, Chu, and Brock (2014) found that perceived green image  
44 can enhance perceived brand quality and brand preference. In the same vein, Martínez  
45 (2015) shows that green image has a positive direct effect on customer trust, satisfaction  
46 and loyalty. Kim (2015) demonstrated that environmental programs recognized  
47 (perceived) by restaurant consumers generate favorable attitudes and intention to  
48 purchase from these companies. This study therefore proposes the following research  
49 hypotheses:  
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54 **H<sub>2</sub>**: Customer perceptions of a hotel's green image positively affect their behavioral  
55 intentions:  
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3 **H<sub>2a</sub>**: Customer perceptions of a hotel's green image positively affect their  
4 intentions to stay at environmentally-certified hotels.  
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6 **H<sub>2b</sub>**: Customer perceptions of a hotel's green image positively affect their  
7 intentions to spread positive word-of-mouth about environmentally-certified  
8 hotels.  
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10 **H<sub>2c</sub>**: Customer perceptions of a hotel's green image positively affect their  
11 intentions to pay a premium price for staying at environmentally- certified  
12 hotels.  
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### 15 ***2.3. The effect of environmental consciousness on the relationship between green*** 16 ***image and customer behavioral intentions*** 17

18 The concept of environmental consciousness involves specific psychological factors  
19 related to an individual's propensity to engage in pro-environmental behaviors (Zelezny  
20 & Schultz, 2000). Environmental concern is an evaluation of, or an attitude toward,  
21 facts, one's own behavior or other's behavior with consequences for the environment  
22 (Schlegelmilch, Bohlen, & Diamantopoulos, 1996). In the context of this study,  
23 environmental consciousness refers to the degree to which hotel guests are concerned  
24 about environmental problems and are willing to make an effort to solve them (e.g. stay  
25 in an environmentally-certified hotel) (Dunlap & Jones, 2002).  
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30 The means-end theory (Gutman, 1982) and the Schwartz's values theory (Schwartz,  
31 1977) provide a theoretical foundation on which to explore the direct effect of  
32 environmental consciousness on consumer behavior and the effect of this variable on  
33 the relationship between a hotel's green image and customer behavioral intentions  
34 toward environmentally-certified hotels. According to the means-end theory, in a green  
35 context, customers choose to stay in a hotel that supports environmental initiatives (i.e.  
36 means) to achieve their desired values (i.e. the end) (Huber, Hermann & Morgan, 2001).  
37 In this sense, customer values such as feelings of self-esteem are essential for explaining  
38 pro-environmental behaviors (Karp, 1996). Past research has suggested that values play  
39 a role in specific situations when they are activated by a set of altruistic concerns (e.g.  
40 environmental degradation, global warming, resources depletion, etc.). Allen and  
41 Ferrand (1999) hypothesized that in order to act pro-environmentally, individuals must  
42 focus beyond themselves and be concerned about the community at large. They  
43 suggested that this state of "actively caring" can only occur if the need for self-esteem  
44 (together with the need for belonging, personal control, self-efficacy and optimism) has  
45 been satisfied. In addition, Schwartz (1977) argued that altruistic behavior would occur  
46 when individuals hold personal norms with regard to a specific behavior (e.g. pro-  
47 environmental behavior). This author further argued that these norms are the results of  
48 both the awareness of the consequences of engaging (or not engaging) in the behavior  
49 and the ascription of personal responsibility for carrying out the altruistic behavior. In  
50 recent years, due to serious environmental problems, more consumers have developed  
51 environmental consciousness. As staying in an environmentally-certified hotel may be  
52 considered as a way of showing deeper pro-environmental values, the more consumers  
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3 perceive themselves as environmentally conscious the more positive their behavioral  
4 intentions will be toward certified hotels.  
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6 Previous studies in the hospitality context support the direct effect of environmental  
7 consciousness on consumer behavioral intentions. For instance, Kang, Stein, Heo, and  
8 Lee (2012) found that guests with higher degrees of environmental concerns develop a  
9 greater willingness to pay more to stay in green hotels. On the other hand, Huang, Lin,  
10 Lai, and Lin (2014) suggest that customers with a high degree of environmental  
11 consciousness use products and services that are environmentally beneficial or protect  
12 the environment to a greater extent. Based on this discussion, this study proposes the  
13 following hypotheses:  
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17 **H<sub>3</sub>:** Customer environmental consciousness positively affects their behavioral  
18 intentions:  
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20 **H<sub>3a</sub>:** Customer environmental consciousness positively affects their intentions to  
21 stay at environmentally-certified hotels.  
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23 **H<sub>3b</sub>:** Customer environmental consciousness positively affects their intentions to  
24 spread positive word-of-mouth about environmentally-certified hotels.  
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26 **H<sub>3c</sub>:** Customer environmental consciousness positively affects their willingness  
27 to pay a premium price for staying at environmentally-certified hotels.  
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31 Research also supports the moderating effect of environmental consciousness on the  
32 perception of a hotel's green image and consumer behavior. Green practices allow  
33 certified hotels to differentiate themselves from competitors (Manaktola & Jauhari,  
34 2007). In addition, as previously mentioned, image is expressed as a function of the  
35 salient attributes of a particular firm that are evaluated and compared to one another  
36 (Bloemer & Ruyter, 1998) and customer environmental concerns are associated with  
37 their personal values (Schwartz, 1977). Therefore, customers who are more concerned  
38 about ecological problems may be more likely to consider environmental issues (e.g.  
39 environmental certifications) when they make a lodging decision than those who do not  
40 perceive themselves as environmentally conscious. As staying at an environmentally-  
41 certified hotel could be considered as reflecting deep environment-related self-  
42 perceptions, the more consumers perceive themselves as environmentally conscious, the  
43 more green attributes will influence customers' (perceived) green image of a particular  
44 hotel. In turn, consumers will be more likely to develop positive behavioral intentions  
45 (e.g. visit intention, intention to spread word-of-mouth and willingness to pay) toward  
46 environmentally-certified hotels in order to satisfy their personal values and thereby  
47 increasing their levels of self-esteem. In this sense, the authors believe that it is not  
48 enough for hotel guests to perceive a company as green or environmentally friendly  
49 (e.g. green image), as this may not sufficiently motivate them to develop a favorable  
50 behavioral response toward the company. In this study the authors therefore propose  
51 and test not only the direct effect of customer environmental consciousness on their  
52 behavior but also its moderating effect, so that if customers are more sensitive to  
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3 environmental problems (e.g. higher levels of environmental consciousness) the effect  
4 of a green image will be stronger on consumer behavioral intentions.  
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7 Prior studies confirm the relevant role of environmental consciousness as a moderator in  
8 the relationship between a company's green image and consumer behavior. In their  
9 study of restaurants, Namkung and Jang (2013) indicated that consumer self-perception  
10 of environmental consciousness moderated their evaluation of green practices, a firm's  
11 green brand image and customer willingness to revisit the restaurant. These authors  
12 propose that consumers have different degrees of environmental consciousness so that  
13 their green behavior will be different. They also confirm that consumers with stronger  
14 environmental consciousness have higher opinions of a restaurant's green image and  
15 show more positive future behavioral intentions given the stronger effect of green image  
16 on consumer intentions to revisit. Thus, this study proposes the following hypotheses:  
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20 **H<sub>4</sub>:** For those customers with a high degree of environmental consciousness the  
21 relationship between the perception of a hotel's green image and their behavioral  
22 intentions will be stronger than for those customers with a low degree of environmental  
23 consciousness.  
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26 **H<sub>4a</sub>:** For those customers with a high degree of environmental consciousness the  
27 relationship between the perception of a hotel's green image and their intentions  
28 to visit an environmentally-certified hotel will be stronger than for those  
29 customers with a low degree of environmental consciousness.  
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32 **H<sub>4b</sub>:** For those customers with a high degree of environmental consciousness the  
33 relationship between the perception of a hotel's green image and their intentions  
34 to spread positive word-of-mouth about an environmentally-certified hotel will  
35 be stronger than for those customers with a low degree of environmental  
36 consciousness.  
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39 **H<sub>4c</sub>:** For those customers with a high degree of environmental consciousness the  
40 relationship among the perception of a hotel's green image and their willingness  
41 to pay more to stay at an environmentally-certified hotel will be stronger than  
42 for those customers with a low degree of environmental consciousness.  
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### 45 **3. Method**

#### 46 **3.1. Measures**

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48 Since environmental certifications are highly product-specific, they are able to provide  
49 certifications for different types of tourism businesses (e.g. accommodation, restoration,  
50 transportation, etc.). As such, to fulfill our research objectives a questionnaire was  
51 developed and aimed at guests staying at Spanish hotels. The authors decided to study  
52 hotel guests to guarantee that the individuals who were interviewed had sufficient  
53 knowledge of hospitality services and were used to making decisions about hotel  
54 booking, so they could take into consideration the fact that a hotel is environmentally  
55 certified. For each item, respondents were asked to rate their level of agreement (or  
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disagreement) using a 7-point Likert scale. Participants were given general information about environmental certifications and their goals in order to ensure that respondents were able to manifest their judgments about these schemes. The survey solicited information regarding demographics and traveling characteristics of respondents, including gender, age, level of education, occupation, purpose of travel and previous experience with a certified hotel.

We adopted the measurement scales from previous studies for all the constructs of our model. These items are presented in the appendix.

### 3.2. Data collection and sample profile

A sample of hotels customers in Spain was surveyed using a structured questionnaire to validate the research hypotheses. Given that Spain has a substantial population of certified hotels, this country can serve as an interesting context in which to test our research model. Personal surveys were carried out in respondents' homes to ensure their comfort and to make sure that they took time to answer the questions calmly and thoughtfully. The length of each interview averaged 10-15 minutes to avoid fatigue in the respondents. University students collaborated in collecting and gathering data. A convenience sample was used (non-probabilistic sampling procedure). With the aim of ensuring greater representativeness of the data, the authors employed multistage sampling, using quotas based on guests' gender and age to replicate the profile of the Spanish population. Table 1 displays the profile of respondents.

**Table 1. Sample characteristics**

<b>Characteristic</b>	<b>n</b>	<b>%</b>
<i>Gender</i>		
Male	233	46.41
Female	263	53.59
<i>Age</i>		
18-24	98	19.52
25-34	62	12.35
35-44	77	15.33
45-54	102	20.31
55-64	43	8.56
Over 65	120	23.90
<i>Education</i>		
No education	22	4.38
Basic (Primary and Secondary school)	68	13.54
High school	156	31.07
University	191	38.04
Post-graduate degree	65	12.94
<i>Occupation</i>		
Student	117	23.30
Self-employed	79	15.73
Worker	152	30.28

Retired/pensioner	122	24.31
Unemployed	32	6.37
<i>Travel purpose</i>		
Leisure	359	71.51
Business	81	16.13
Other	62	12.35
<i>Previous experience with a certified hotel</i>		
Yes	227	45.22
No	275	54.78

Following an orthodox approach in quantitative research, the authors conducted a thorough inspection of the database, checking for missing values and outliers. The invalid questionnaires were eliminated so that they did not affect the results in further analyses; however this fact did not significantly affect the distribution of the sample with regard to the quotas established in the sampling procedure. After eliminating invalid questionnaires we obtained 502 surveys.

To explore the issue of non-response bias the authors tested for differences between early and late respondents (Armstrong & Overton, 1977). Early responses were defined as the first 75% of returned questionnaires. The last 25% were considered late respondents and representative of individuals who did not respond to the survey. Early and late respondents were compared for gender, age, education and occupation using a t-test and no significant differences were found, suggesting that non-response bias was not an issue.

Bias anonymity and confidentiality were verbally emphasized in order to control for social desirability (Chung & Monroe, 2003). The authors emphasized anonymity and confidentiality, and that there were no right or wrong answers, so as to further decrease social desirability bias. Finally, this study collected data through a single instrument, common method variance (CMV) may exist, which may result in invalid conclusions being made about the relationships between the proposed variables. Harman's one factor approach was used to overcome this limitation (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). An exploratory factor analysis (EFA) (fixed on one factor extraction without any rotations) was conducted for the 25 items that were manifested in six factors, in order to determine the total variance of the single extracted factor and estimate whether the total variance of the single factor was below the cut-off value of 50%. Our results revealed that the single general factor accounted for 43.48% of the total variance explained for the 25 items, suggesting no indication of CMV.

#### 4. Results

In order to test the research hypotheses proposed, the authors followed a PLS-SEM approach which is especially suited for the estimation of moderating effects. This study

followed a two-step approach in order to analyze and interpret PLS results (Chin, 2010): (1) assessment of the outer (measurement) model, and (2) testing the inner (structural) model. Moderating effects were tested following the “product indicator approach” (Chin, Marcolin, & Newsted, 2003), which is provided by default in SmartPLS and is applicable when the moderator and the independent constructs are reflective, as is the case in our study.

#### 4.1. Evaluation of the measurement model

The results obtained in the estimation of the measurement model confirm the appropriate psychometric properties of the measurement scales (e.g. reliability and validity). The reliability of measurement scales is confirmed (Table 2), as the Cronbach’s Alpha and compound reliability coefficients (Bagozzi & Yi, 1988) are, in every case, clearly above the required minimum values of 0.7 (Hair, Anderson, Tatham, & Black, 2010). The convergent validity of the measurement instruments is supported (Table 2) as the values of the AVE coefficient are, in all cases, greater than 0.50 at the construct level and all item loadings are above or very close to 0.7 and are significant at the 0.01 level. Only in the case of item ENC1 (for environmental consciousness) did the item loading take a value of 0.64, but following the recommendations by Hair, Ringle, and Sarstedt (2013) we decided to keep the item in the scale as the reliability of the instrument is over the recommended limits.

Third, this study follows three approaches to measure the discriminant validity of the measurement scales (Tables 3 and 4). The cross loadings of an item’s outer loading on the associated construct are greater than all of its loadings on other constructs (e.g. cross loadings). All the factors fulfill the criterion proposed by Fornell and Larcker (1981), as the square root of each AVE coefficient is greater than the correlations between the constructs. Finally, in all cases, the heterotrait-monotrait (HT-MT) values are below the threshold of 0.85 of 0.90 (Henseler, Ringle, & Sarstedt, 2015) (Table 4). These results confirm the discriminant validity of the measurement scales used in the empirical research.

**Table 2. Measurement Model**

Construct	Items	Weights	Cronbach’s alpha	Composite Reliability	AVE
Green practices (GRE)	GRE1	0.84	0.90	0.93	0.77
	GRE2	0.89			
	GRE3	0.90			
	GRE4	0.88			
Green image (GIM)	GIM1	0.88	0.88	0.92	0.74
	GIM2	0.90			
	GIM3	0.87			

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	GIM4	0.79			
	ENC1	0.64			
	ENC2	0.83			
	ENC3	0.70			
Environmental consciousness (ENC)	ENC4	0.81	0.89	0.91	0.57
	ENC5	0.70			
	ENC6	0.79			
	ENC7	0.70			
	ENC8	0.84			
	STA1	0.91			
Stay intention (STA)	STA2	0.92	0.89	0.93	0.82
	STA3	0.89			
	WOM1	0.92			
Intention to spread word-of- mouth (WOM)	WOM2	0.93	0.92	0.95	0.81
	WOM3	0.85			
	WOM4	0.90			
Willingness to pay a premium (PAY)	PAY1	0.95	0.89	0.95	0.90
	PAY2	0.95			

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**Table 3. Results for Fornell and Larker's criterion for discriminant validity**

	<b>Green practices</b>	<b>Green Image</b>	<b>Environmental Consciousness</b>	<b>Intention Stay</b>	<b>Intention WOM</b>	<b>Intention Pay</b>
Green practices	0.880 <sup>a</sup>					
Green Image	0.739	0.859 <sup>a</sup>				
Environmental Consciousness	0.368	0.433	0.752 <sup>a</sup>			
Intention Stay	0.292	0.345	0.655	0.905 <sup>a</sup>		
Intention WOM	0.223	0.297	0.708	0.803	0.902 <sup>a</sup>	
Intention Pay	0.266	0.356	0.628	0.724	0.718	0.947 <sup>a</sup>

<sup>a</sup>= square root of the variance shared between the constructs. Off diagonal elements are the correlations among constructs.

**Table 4. Results of heterotrait-monotrait ratio (HT-MT) analysis**

	<b>Green practices</b>	<b>Green Image</b>	<b>Environmental Consciousness</b>	<b>Intention Stay</b>	<b>Intention WOM</b>	<b>Intention Pay</b>
Green Image	0.826					
Environmental Consciousness	0.431	0.502				
Intention Stay	0.326	0.389	0.717			
Intention WOM	0.247	0.331	0.757	0.887		
Intention Pay	0.300	0.405	0.684	0.816	0.794	

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3 **4.2. Evaluation of the structural model**  
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5 This research follows the three-step approach proposed by Aldás (2016) to analyze the  
6 structural model: (1) coefficient of determination ( $R^2$  value) for the latent variables, (2)  
7 predictive relevance  $Q^2$  (blindfolding), and (3) significance of the structural model path  
8 coefficients and effect size (bootstrapping).  
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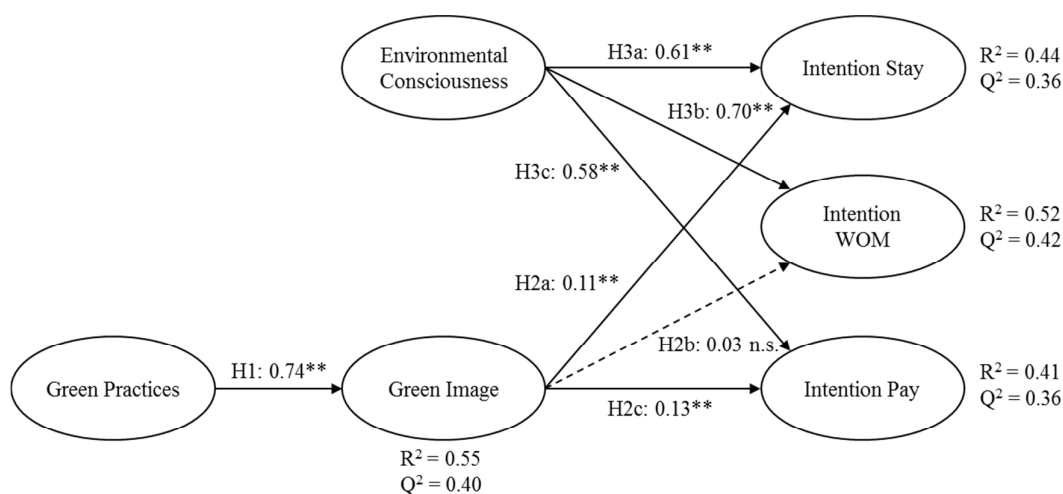
10 This study uses a resampling bootstrap method with 5000, along with each bootstrap  
11 sample containing the same number of observations as the original sample (e.g. 502  
12 bootstrap cases), to generate standard errors and t-values (Chin, 1998; Hair et al., 2013).  
13 The study assesses estimated path relationships between the latent variables in the  
14 model through the sign and magnitude of path coefficients. The results of the estimation  
15 of the structural model are summarized in Figure 1.  
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19  $R^2$  statistics take values above 0.40 in all cases, which shows that the theoretical model  
20 proposed provides a moderate explanation of the variance of the dependent variables,  
21 according to the reference levels proposed by Chin (1998). Additionally, using the  
22 blindfolding procedure, all  $Q^2$  values are considerably above zero, thus supporting the  
23 predicting relevance of the model regarding the dependent variables.  
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26 Finally, the significance of the structural model path coefficients and effect size was  
27 tested using the bootstrapping procedure (two-tails test). Table 5 summarizes the results  
28 obtained for the direct and moderating effects, including the path coefficients, effect  
29 size ( $f^2$ ), t-values and level of significance. The empirical evidence obtained in this  
30 study therefore supports all the research hypotheses proposed in our theoretical model,  
31 except the direct effect of green image on intention to spread positive word-of-mouth  
32 about environmentally-certified hotels (Hypothesis H2b). In addition, the Cohen's  $f^2$  for  
33 the significant paths in the inner model were all above 0.02, with the only exception  
34 being the moderating effect of environmental consciousness on the relationship between  
35 green image and intention to pay. These results suggest satisfactory effects for the  
36 endogenous latent constructs (Henseler, Ringle, & Sinkovics, 2009).  
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Figure 1. Results of the structural model



\*\*p < 0.01; \*p < 0.05

Table 5. Significance testing results of the structural model path coefficients

Structural path	Path coefficient	Effect size (f <sup>2</sup> )	T value
H1: Green practices → Green Image	0.74**	1.20	30.551
H2a: Green Image → Intention Stay	0.11**	0.02	2.679
H2b: Green Image → Intention WOM	0.03	0.00	0.879
H2c: Green Image → Intention Pay	0.13**	0.02	2.932
H3a: Environmental Consciousness → Intention Stay	0.61**	0.53	18.237
H3b: Environmental Consciousness → Intention WOM	0.70**	0.79	26.464
H3c: Environmental Consciousness → Intention Pay	0.58**	0.44	17.433
H4a: Moderating Effect 1 → Intention Host	0.09**	0.02	2.973
H4b: Moderating Effect 2 → Intention WOM	0.12**	0.03	4.891
H4c: Moderating Effect 3 → Intention Pay	0.06*	0.01	2.090

\*\*p < 0.01; \*p < 0.05

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3 The empirical evidence obtained in this study confirms the direct and positive effect of  
4 consumer perceptions of a hotel's green practices on their green image (hypothesis H1).  
5 Our results also support the hypothesis that perceived green image of hotels positively  
6 affects consumer intention to stay at environmentally-certified hotels (Hypothesis H2a)  
7 and to pay a premium price for it (Hypothesis H2c), however, no significant effect of  
8 green image on intention to spread positive word-of-mouth about environmentally-  
9 certified hotels was found (Hypothesis H2b). According to this evidence, having a  
10 positive green image is a clear incentive for consumers to choose a hotel and pay a  
11 higher price, but it does not necessarily lead to positive word-of-mouth. These results  
12 also show that perceptions about a hotel's green practices have an indirect and positive  
13 effect on consumer intentions to stay at environmentally-certified hotels and to pay a  
14 premium price (through its effect on green image). Moreover, the non-significance of  
15 the influence of green image on intention to spread positive word-of-mouth about  
16 environmentally-certified hotels seems to imply that perceived green image determines  
17 consumers' purchase decisions in terms of intention to stay and to pay more for  
18 environmental certified hotels, but it is not a sufficient motivation to communicate the  
19 value of environmentally-certified hotels to other consumers. In other words, green  
20 image seems to speak to consumers' responsibility with regard to their own decisions,  
21 but it is not considered a relevant attribute to spread word-of-mouth that may influence  
22 other individuals.  
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29 This study also supports the strong effect of consumer environmental consciousness on  
30 behavioral intentions with regard to environmentally-certified hotels. The higher the  
31 environmental consciousness of consumers, the higher their intention to stay at  
32 environmentally-certified hotels (Hypothesis H3a), to spread positive word-of-mouth  
33 about them (Hypothesis H3b) and to pay a premium price for them (Hypothesis H3c).  
34 Finally, consumer environmental consciousness also exerts a moderating effect on the  
35 causal relationship of green image on behavioral intentions. In particular, the higher the  
36 environmental consciousness, the stronger the effect of the green image on consumer  
37 intentions to stay at environmentally-certified hotels (Hypothesis H4a), to spread  
38 positive word-of-mouth (Hypothesis H4b) and to pay a premium price (Hypothesis  
39 H4c).  
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## 44 **5. Discussion**

### 45 *Theoretical implications*

46 This research contributes to our understanding of the disconnect between environmental  
47 perceptions and behavioral intentions when it comes to the consumption of green hotel  
48 services, by examining the alignment of customer perceptions and the perceived  
49 behavior of environmentally-certified hotels across several levels of customer  
50 environmental consciousness.  
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55 This research makes theoretical contributions to the sustainable tourism literature in  
56 general and the hospitality literature in particular, through the convergence of different  
57 research streams, specifically environmental psychology and consumer behavior. This  
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3 study integrates internalized perceptions and perceptions of the firm (Gao et al., 2016)  
4 into a model to explain pro-environmental responses toward certified hotels that follow  
5 a holistic approach. By considering the degree of a customer's environmental  
6 consciousness and their perceptions of green initiatives alongside the idea that a hotel's  
7 green image is an important construct for understanding green consumer behavior, this  
8 study suggests a research framework for examining customer behavioral intentions  
9 toward environmentally-certified hotels. The results presented here agree with past  
10 studies that have used both categorizations to explore consumer responses toward  
11 environmentally friendly products and services (Han et al., 2009; Jeong et al., 2014).  
12 Nevertheless, this study expands the previous research, and other studies such as those  
13 by Baker et al. (2011), Chen and Tung (2009), Di Pietro et al. (2013) or Kang et al.  
14 (2012) by including different constructs, such as mediating and moderating factors.  
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19 This study presents additional theoretical contributions to the academic literature. No  
20 prior research has investigated the relationship among green practices, customer degree  
21 of environmental consciousness and their behavioral intentions in relation to a  
22 company's green image in the hotel sector. In this sense, previous studies in the  
23 hospitality literature have had an inclination to explore separate relationships between  
24 environmental consciousness, green image and green consumer behavior (Han et al.,  
25 2009; Huang et al., 2014; Jeong et al., 2014; Lee et al., 2010; Namkung & Jang, 2013).  
26 Our research distinguishes itself from previous empirical studies in considering the  
27 interactive effect of green image and environmental consciousness in promoting  
28 customer behavioral intentions in light of environmental psychology and consumer  
29 behavior issues.  
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34 This study demonstrates that customer perceptions of green practices positively affect  
35 the green images of companies, which also positively affects customer behavioral  
36 intentions in terms of staying and paying a premium for staying at an environmentally-  
37 certified hotel. The effect of green image on consumer willingness to spread positive  
38 word-of-mouth is not confirmed. By implementing green practices, environmentally-  
39 certified hotels can motivate customers to shape a mental image of a particular hotel's  
40 level of commitment toward environmental issues and the way in which the company  
41 presents itself with respect to its socially responsible activities, which is consistent with  
42 previous research (Durna et al., 2015). In this sense, this study demonstrates that  
43 customer perceptions of green practices act as a major driver when choosing a certified  
44 hotel. It is proved that green practices are a meaningful element, as are other key hotel  
45 service factors, such as quality service, infrastructure or the professionalism of  
46 employees in influencing customer accommodation decisions (as previous studies have  
47 demonstrated, such as the research by Alexander (2002), Briggs, Sutherland, and  
48 Drummond (2007) or Bruns-Smith et al. (2015), among others), which means that  
49 customers recognize the direct benefits of an environmentally-certified hotel's  
50 attributes.  
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56 The third theoretical contribution is the extension of environmental psychology  
57 literature through the introduction of customer environmental consciousness in our  
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3 model, in order to explore its role as a direct and moderating mechanism on the effect of  
4 green image on customer behavioral intentions. This study provides empirical evidence  
5 that customer environmental consciousness is a direct predictor of behavioral intentions  
6 with regard to environmentally-certified hotels, suggesting that becoming  
7 environmentally concerned results in the adoption of automatic environmental purchase  
8 preferences. In this sense, this study proves that the higher environmental consciousness  
9 of consumers, the higher their intention is to stay at environmentally-certified hotels, to  
10 spread positive word-of-mouth about them and to pay a premium price for them.  
11 Therefore, this research proves that when consumers have different degrees of  
12 environmental consciousness, their green behavior will also be different, which is  
13 consistent with the views of past scholars (Huang et al., 2014; Kang et al., 2012). We  
14 have also demonstrated the moderating effect of this variable in the connection between  
15 a hotel's green image and customer behavior. The higher the environmental  
16 consciousness, the stronger the effect of green image on consumer intention to stay at an  
17 environmentally-certified hotel, to spread positive word-of-mouth and to pay a premium  
18 price. These significant relationships can be explained by the fact that those customers  
19 with high levels of environmental consciousness are more likely to have adequate  
20 information about a hotel's green initiatives and environmental certifications, which in  
21 turn has a significant impact on certified hotels (Chen & Peng, 2012). These results  
22 therefore provide a valuable reminder of the importance of integrating environmental  
23 consciousness into models explaining the green consumption of hotel services.  
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### 30 ***Managerial implications***

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32 These findings have important managerial implications for tourism and hospitality  
33 companies. First at all, this study demonstrates that green image is a powerful tool with  
34 which to develop favorable customer responses in a certified hotel context. Hospitality  
35 managers should design strategies to raise perception of green-related features of  
36 environmentally-certified companies and develop effective strategies to promote their  
37 green image. In this sense, environmental certification programs can become part of a  
38 hotel's green image, together with traditional factors such as service quality, price,  
39 infrastructure or location. For instance, hoteliers could obtain ecological certifications.  
40 Several international organizations offer third-party environmental certifications, such  
41 as the U.S. Green Building Council, which offers an initiative called Leadership in  
42 Energy and Environmental Design (LEED), which certifies resource-efficient  
43 constructions. Other initiatives such as the ISO 14001 or the ECO-Management and  
44 Audit Scheme (EMAS) help hotel companies to evaluate, manage and improve their  
45 environmental performance. By building a green image based on these aspects,  
46 environmentally-certified hotel companies can enjoy the competitive advantage  
47 provided by the set of expectations around offering a certain level of environmental  
48 value (Kang & Hur, 2012). Hotels' green image that is based on environmental  
49 certifications (certified by independent and renowned agencies) will build strong  
50 relationships with environmentally conscious consumers and create differential  
51 competitive advantages, thereby introducing a new type of competitive standard  
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3 –environmental certifications– assuming that hotels consistently provide this  
4 environmental value.  
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6 Secondly, and given the relevance of customer perceptions of environmental  
7 certifications, managers should also emphasize the relevance of these schemes by  
8 communicating to consumers the benefits of implementing these certifications and the  
9 achievements obtained after their implementation, highlighting their impact on society.  
10 For instance, Meliá Hotels International has 141 certifications in sustainable tourism  
11 with different seals (e.g. Earthcheck, Biosphere, Travelife, LEED, ISO, Green Leaders,  
12 etc.). After obtaining these certifications, they have achieved some remarkable  
13 environmental improvements in recent years, including the reduction of the company's  
14 carbon footprint (-3.81%) along with its water (-7.66%) and energy consumption (-  
15 9.40%). In this way Meliá has minimized its environmental impact by 9.5%. This case  
16 can show consumers how environmental initiatives can generate a real impact on  
17 society and that these practices are not just marketing ploys, thereby demonstrating that  
18 environmentally-certified hotels contribute meaningfully to sustainable tourism  
19 practices.  
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25 Hoteliers may promote these aspects by using multiple information sources such as  
26 advertising, public relations campaigns, sponsorships and social networks, since  
27 customers perceptions of green image may be influenced by corporate communications  
28 (Martínez, 2015). Nevertheless, these communicative techniques need to convince  
29 consumers to believe that environmentally-certified hotels make a difference in  
30 protecting the environment (Lee et al., 2010) in order to avoid making consumers  
31 become skeptical. Through effective communication strategies promoting the  
32 achievement of official third-party environmental certifications, hoteliers can show how  
33 they make a genuine commitment to the environment and reduce ambiguity.  
34 Consequently, hotel guests would not under-perceive the green overall image of  
35 certified hotels and therefore would develop positive behavioral intentions.  
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40 To conclude, hospitality companies should promote environmental consciousness since  
41 less environmentally conscious customers are often uninformed about the negative  
42 impacts that non-environmentally-certified hotel companies have on the environment  
43 (Chen & Peng, 2012). In this sense, companies may use green marketing strategies  
44 (Polonsky, 1994) and develop specific programs to inform and educate these guests. For  
45 instance, hotel firms may organize conferences, seminars, visits to places of interest for  
46 their environmental biodiversity or contests and competitions to encourage guests to  
47 become involved in the environmental programs of companies. Similarly, hospitality  
48 managers may help customers to understand how they can minimize negative impacts,  
49 for instance by providing information about ecological topics in public areas of hotels  
50 (e.g. rooms, information desks, etc.) or using several communication channels. To  
51 enhance their green image and develop positive customer behavioral intentions,  
52 environmentally-certified hotels should actively make positioning efforts in the less  
53 environmentally conscious market. In order to encourage less conscious customers to  
54 stay more frequently at environmentally-certified hotels, it is crucial to emphasize the  
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3 importance of individuals' environmental decisions by providing feedback indicating  
4 that they have made a positive difference by choosing an environmentally-certified  
5 company. It is also important for professionals to inform this group of consumers that  
6 environmentally-certified hotels exert a positive influence on the environment. These  
7 efforts would motivate their everyday habits, which would eventually enhance their  
8 environmental purchasing decision-making.  
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### 11 ***Limitations and future lines of research***

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13 Finally, there are several limitations to this study. The empirical results were obtained  
14 from the hotel industry and therefore cannot be broadly applied to other contexts. It  
15 would be interesting to explore other accommodation (e.g. hostels, apartment rental  
16 services, etc.) and tourism industries (e.g. transportation, leisure activities, etc.) to  
17 generalize the findings presented here. In addition, this study makes use of behavioral  
18 intentions as a means of exploring to what extent the perception of green practices and  
19 hotels' green image affect consumer behavior. This fact should also be considered as a  
20 limitation since behavioral intentions have been widely used as an attitudinal loyalty  
21 indicator but they do not correspond to behavioral loyalty. Thus, future studies should  
22 focus on actual behavioral measures to thoroughly analyze the influence of green  
23 practices in a certified hotel context. This study may also not fully represent the  
24 experience across different hotel segments such as the luxury market segment. Future  
25 studies could also include internal (e.g. customer motives, values, attitudes, emotions or  
26 sense of responsibility) and external (e.g. institutional, economic, social or cultural  
27 aspects) factors to increase the explanatory power of the proposed model.  
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## Appendix

Identificator	Item
<b>Perception of green practices</b>	Adapted from Jeong et al. (2014)
GRE1	I believe that environmentally-certified hotels use recyclable disposable containers
GRE2	I believe that environmentally-certified hotels recycle their waste
GRE3	I think that environmentally-certified hotels have equipment to reduce water consumption
GRE4	I think that environmentally-certified hotels have equipment to reduce energy consumption
<b>Perception of green image</b>	Adapted from Jeong et al. (2014)
GIM1	Environmentally-certified hotels behave in a socially responsible way
GIM2	I think that environmentally-certified hotels are responsible regarding environmental issues
GIM3	I believe that environmentally-certified hotels are concerned about environmental conservation
GIM4	I think that environmentally-certified hotels not only care about generating profits but also about the environment and consumers
<b>Stay intention</b>	Adapted from Gao et al. (2016)
STA1	I intend to stay in an environmentally-certified hotel
STA2	I am planning to stay in an environmentally-certified hotel
STA3	I will make an effort to stay in an environmentally-certified hotel
<b>Intention to spread word-of-mouth</b>	Adapted from Gao et al. (2016)
WOM1	I often recommend environmentally-certified hotels
WOM2	I usually mention services provided by environmentally-certified hotels to other people
WOM3	I only have positive comments about environmentally-certified hotels
WOM4	I have described my experience with environmentally-certified hotels to more people compared to that with non-certified hotels
<b>Willingness to pay a premium</b>	Adapted from Gao et al. (2016)
PAY1	It is acceptable to pay more to stay in an environmentally-certified hotel
PAY2	I am willing to pay more to stay in an environmentally-certified hotel

<b>Environmental consciousness</b>	Adapted from Huang et al. (2014)
ENC1	I feel frustrated when I think of hotel companies that carry out their business activities by polluting the environment
ENC2	When two hotel companies are similar, I tend to select the one that harms the environment less, even if it is more expensive
ENC3	If the services provided by a hotel industry seriously damage the environment, I will refuse to purchase them
ENC4	When choosing a hotel company, I always select the one with environmental certification, even if it is more expensive
ENC5	I regularly recycle at home
ENC6	I often purchase products that use less paper or cardboard for packaging
ENC7	I am conscious about the actions I can take to improve the environment
ENC8	I am usually informed about environmental issues

For Peer Review

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