This is the accepted manuscript of the article:
Nicolau, J.L., de Carlos, P., Alén, E., and Pérez, A. (2022). Asymmetric effects of extreme-moderate online reviews in the language-satisfaction relationship, *Tourism Management*, 91, 104524. https://doi.org/10.1016/j.tourman.2022.104524

ASYMMETRIC EFFECTS OF EXTREME-MODERATE ONLINE REVIEWS IN THE LANGUAGE-SATISFACTION RELATIONSHIP

ABSTRACT

The intercultural nature of tourism makes interpersonal communication a critical element that influences individuals' experience and, in turn, their satisfaction. The existing research predominantly focuses on indirect communication (such as advertising). This study contributes to the literature by examining the effect of the reviews of language use on overall satisfaction and by looking into the dyad formed by the extreme vs. moderate character of the reviews and their sign (positive vs. negative). The analysis of 48,491 online reviews shows the effect of language use opinions on overall satisfaction, with extreme opinions having a more significant impact than moderate opinions. A more interesting and relevant impact is the departure from the well-established cognitive negativity bias characteristics of online reviews: extreme reviews have a symmetric impact on satisfaction, and moderate reviews present asymmetric effects. Both outcomes are a deviation from this cognitive bias, and relevant implications are derived.

KEYWORDS: intercultural service encounter; language accommodation; satisfaction; reviews; communication; negativity bias.

1. INTRODUCTION

Culturally diverse activities, such as tourism, involve service encounters between customers and employees of different backgrounds, each of whom has its perspectives of these interactions and consequently has different expectations (Sharma et al., 2009). Thus, all kinds of differences and tensions between the local culture and the tourists' cultures are manifest. Although globalization is undeniable in its spatial, material, and visual effects, cross-cultural encounters continue to be a socio-cognitive phenomenon in which expectations, prejudices, stereotypes, attitudes, self-reflection, or perceptions of power relations play a role (Leclerc and Martin, 2004; Traiger, 2008; Griffiths and Sharpley, 2012; Soulard, McGehee and Knollenberg, 2020; Cui et al., 2021). In these intercultural service encounters, wherein a high complexity exists involving intergroup and interpersonal facets (Vrontis et al., 2020), misinterpretations are common, which ultimately may result in disgruntled clients, a reduction in satisfaction, and a potential loss of loyalty (Sharma et al., 2015; Sizoo et al., 2005). Consumer dissatisfaction can thus be derived from intercultural differences in a seemingly appropriate behavioral exchange between strangers (Callahan, 2006); thus, studying tourists' cultural values and how they can influence their behavior is important (Seidenspinner and Theuner, 2007; Zolfagharian et al., 2018).

Given the eminently intercultural nature of tourism, communication in the industry is crucial (particularly the first consumer-provider interaction) and may influence consumer experience (Tu et al., 2019); consequently, communication is an essential factor for tourist satisfaction (Huisman and Moore, 1999). In international tourism, people interact with other languages; thus, the use of language is critical in this context. That is, a common language is necessary as the people who interact come from different linguistic backgrounds. Okafor et al. (2018) point out "language may enhance the pleasantness of a vacation, or it can act as a barrier." These authors emphasize that, given the intangible nature of tourism, language (written and verbal) is also one of the most important drivers in persuading potential tourists to become actual tourists, and quality communication between the tourist and the host may determine the level of quality of an experience.

The tourism industry is increasingly aware of the role that languages play in providing intercultural services (De Angelis et al., 2017; Holmqvist et al., 2017; Tenzer et al., 2017; Tuna, 2006; Zhang, Laroche, and Richard, 2017). This industry is characterized by an international customer base with several mother tongues, including the linguistic factor as a relevant component of the business

strategy of a tourism firm in general and a hotel in particular (Alcantara-Pilar et al., 2018). Furthermore, despite the widespread use of English as a global lingua franca (Fox, 2008), regarding English as the only possible or desirable solution for communicating with tourists has risks (Phipps, 2007). For example, Holmqvist and Grönroos (2012) find that using the customer's mother tongue can increase satisfaction and loyalty. Attitudes and sensitivity toward multilingualism have been particularly prevalent in the European Union. For example, in the report, European Strategy for Multilingualism – European Council (2008), the European Commission "promotes language learning and linguistic diversity across Europe," especially so in Western European countries (Leslie and Russell, 2006). Therefore, one way to improve consumers' experiences in service encounters is to take account of their linguistic preferences by using a language familiar to them and consistent with their cultural values (Holmqvist and Grönroos, 2012; Zolfagharian et al., 2017). Zolfagharian et al. (2018) call this strategy *linguistic alignment* between employees and customers during intercultural service encounters, which can even help companies avoid customer service failures (Holmqvist et al., 2017; Touchstone et al., 2017). Among national culture characteristics, language stands out (Yang, French, Lee and Watabe, 2020) and has been identified as the most critical to these service encounters (Zhang et al., 2017). Therefore, language is crucial to attaining successful employee-customer interactions and an additional element to evaluate (Holmqvist et al., 2017).

Tourism providers must consider cultural differences between countries and use this knowledge as an input for service design (Alam, 2011; Morales and Ladhari, 2011).

Tourism research has scarcely studied the effect of linguistic differences despite that "the interactive and intangible nature of services means that language, language skills, and language difficulties will increasingly influence how consumers perceive, execute, and evaluate interactions with service companies" (Holmqvist and Grönroos, 2012: 429). Prior research has mainly analyzed indirect communication (e.g., advertising) (Luna and Peracchio, 2002; Puntoni et al., 2008). However, few studies have assessed the extent to which language determines the tourist's experience (Holmqvist and Grönroos, 2012; Liu et al., 2017).

On account of the alluded scarcity of tourism research into language in service provision, especially the language spoken by hotel employees (Dailey et al., 2005; Holmqvist, 2011), this study contributes to the literature by examining the effect of the reviews of language use on overall satisfaction and by looking into the dyad formed by the extreme vs. moderate character of the

reviews and their sign (positive vs. negative). The use, misuse, or non-use of the guests' mother tongue by service providers may affect their assessment of the cultural sensitivity of the hotel (Touchstone et al., 2017). For example, Zolfagharian et al. (2018) found that satisfaction is positively affected when the employee initially uses the client's preferred language, compared to when he does not and changes it later. Some other studies have found that cultural sensitivity influences consumer satisfaction and loyalty (Holmqvist et al., 2014; Sharma et al., 2009; Van Vaerenbergh and Holmqvist, 2014). These types of studies (e.g., Zolfagharian et al., 2018) use a *domestic context* where the authors evaluate the linguistic preference of consumers who live in a country other than their country of origin, with a non-native language (e.g., a French person living in Spain). However, for tourists—who, by definition, are not residing in the destination—the service encounter occurs in a country and with a language other than the one of origin and/or residence (e.g., a French person visiting Spain). It is in this context—*a foreign context*—where our study fills a gap by delving into the said linguistic preference and its effects on satisfaction.

In other cases, the evaluation has been carried out at a single moment of the service encounter and in a single intercultural context (e.g., during check-in and Chinese-American context in Wang et al., 2015). Therefore, in the present study, we focus on analyzing interactions between guests and hotel staff who have different native languages. In our view, to date, this issue has not been addressed in any depth in tourism and hospitality research. More specifically, this study asks to what extent language affects customers' assessment of intercultural service encounters? Using the framework provided by Dissonance Theory, Contrast Theory, and Kano's model, this study presents differential influences of language use on satisfaction depending on individuals' expectations and fills the alluded gap and contributes to the literature by analyzing the effect of the guests' reviews of hotels' use of language on overall satisfaction and going a step further by looking into the dyad formed by the extreme vs. moderate character of the reviews and their sign (positive vs. negative) and the intricacies thereof.

The work is organized as follows. Next section reviews the literature on the topic where the different relationships among different constructs are presented. The research design section shows the data, variables and methodology employed. The next section performs data analysis. The last section presents the theoretical and management implications, limitations, and future research lines on the basis of the obtained results.

2. THE EFFECT OF USE OF LANGUAGE ON SATISFACTION

The globalized nature of today's markets has raised the relevance of analyzing the influence of culture on the tourism industry in general (Seidenspinner and Theuner, 2007) and the airline and hotel industries in particular (Ayoun and Moreo, 2008). In this intercultural context, the hotel must recognize that the guests' assessment of their experience will be highly dependent on their interaction with the person providing the service (Zeithaml et al., 1996; Kim and Baker, 2018; Xu and Wang, 2019). The hotel must, even more, consider that language influences service experience through its functional element and its symbolic component (Holmqvist, 2011; Holmqvist and Gröonroos, 2012; Touchstone et al., 2017). Some studies have even revealed that the symbolic or affective dimension is much more critical than the instrumental one (Wang et al., 2015). In other words, language, which is seen as a communication tool, can have implications that go beyond its obvious functional goals (Holmqvist, 2009), reflecting elements related to cultural values because it is learned through social interactions and used as a symbol of belonging to a specific socio-cultural group (Mariani et al., 2020). In particular, the literature has found an association between the quality of interaction (i.e., communication) between guests and hotel staff and the level of guests' satisfaction (Cohen and Cooper, 1996; Dann, 1996; Huisman and Moore, 1999).

Thus, one of the key decisions in intercultural and multilingual contexts, typical of tourism, is the choice of language (Yoneoka, 2011). Language selection can be explained by the theory of linguistic accommodation, which holds that individuals adapt their conversation, gestures, and paralingual features to match their interlocutors (Giles et al., 1977). According to Goethals (2014), this phenomenon is particularly evident in the European Union, where conversations between guests and hotel staff can occur in a lingua franca (usually English) and in the local language or the guest's mother tongue. Hotels can often choose from several languages. Thus, they should consider the attitudes and opinions held by guests because, as Van Vaerenbergh and Holmqvist (2014) and Kim and Filimonau (2017) found, the language selection decision can have implications on consumer perceptions of the service interaction and the service provider. Cenni et al. (2020) point out that tourists coming from different linguacultural backgrounds will have different preferences concerning language. Despite these findings, the language's different uses and effects have not received special attention in the tourism marketing literature (Mariani et al., 2020).

Tourism is fundamentally a cultural experience; thus, communication should be sensitive to cultural differences (Hogg et al., 2014). In this sense, Tuna (2006) suggested that "cultural approximation" can affect guest satisfaction. Understanding cultural approximation is how guests' culture, particularly their language, is similar to that of the destination. The author argued a positive correlation between satisfaction and the similarity of their languages because of greater cultural approximation. Satisfaction is lower when differences are important, that is, when cultural approximation is lower. Similarity Attraction Theory pointed out the same idea. Some scholars suggested that cultural dissimilarities can create conflicts and miscommunications, resulting in a less satisfying service encounter (Vrontis et al., 2020; Wang et al., 2015). This result is confirmed by Sharma et al. (2015), who found a reduction in satisfaction if there is a perceived greater cultural distance, and by Mariani et al. (2019), who found that the use of domestic language exerts a positive impact on online ratings. However, the results of Mariani et al. (2020) indicate that these results highly depend on the host destination. In other cases, these strategies have been shown to be valued more from a symbolic perspective, implying that the simple existence of an approximation effort may be enough to obtain positive responses from the consumer that would materialize in higher levels of satisfaction (Wang et al., 2015). In other words, the service provider's flexibility leads to more positive assessments of the organization by consumers (Touchstone et al., 2017).

When guests assess a service, their cultural origin affects expectations and perceptions of quality. For example, Legohérel et al. (2012) observed that cultural differences bring about variations in re-purchase intention, perceptions of service quality, and frequency of recommendation of the service, which in turn produce differences in evaluations. You et al. (2000) found similar differential patterns of assessments regarding expectations. Culture plays a critical role in complaining behavior, mainly when dealing with inadequate or discourteous service (Ngai et al., 2007).

Also, note that in contexts that do not involve native English-speaking participants, the ideological and affective implications of catering for international guests in their mother tongue or English as a lingua franca, for that matter, should be recognized (House, 2003). On the one hand, Spielmann and Delvert (2014) and Kraak and Holmqvist (2017) show that people in non-English-speaking countries may welcome the service provider using English. On the other hand, some customers may develop negative views if the company does not provide the service in their preferred

language (Holmqvist, 2011; Van Vaerenbergh and Holmqvist, 2013, 2014). In other words, feelings toward their own or foreign languages can influence people's impressions, their choices (Gopinath and Glassman, 2008), and their revisit intention and intention to recommend the service provider (Holmqvist and Grönroos, 2012; Mariani et al., 2020). They can even lead to complaints (Hassan et al., 2021). In the same vein, Chen and Hsu (2000) found that spending at the destination was adversely affected when language barriers hindered basic communication. Consequently, the service delivery language influences interaction quality and may encourage the customer's participation in the value co-creation process (Bell and Puzakova, 2017).

Even consumers proficient in several languages indicate that different languages lead to distinct perceptions of service quality (Holmqvist, 2011). Balaji et al. (2017) demonstrated that, a service employee using customers' second language creates a less favorable impression of the employee and diminishes their satisfaction. The reasoning behind is the consumer's association between language divergence and service failure (Van Vaerenbergh and Holmqvist, 2014) and perception that the provider is making insufficient efforts or is not being sufficiently flexible or accommodating. As a result, the individual makes less effort to reciprocate and evaluates the employee more negatively (Giles et al., 1991). Puntoni et al. (2009) justified this result by the strong link between individuals' emotions and how they are aroused through their native language vs. non-native languages. Van Vaerenberg and Holmqvist (2013) observed that using consumers' native language increases the employee's possibility of receiving a tip. Van Vaerenberg and Holmqvist (2014) found that positive word of mouth is enhanced, and Brach and Fraser (2002) showed that positive perceptions are evoked more easily. Cenni et al. (2020) found that speaking their mother tongue during the service interaction was a common cross-linguistic wish posted in the analyzed hotel reviews.

Some research has found that consumers' use of a second language can be seen as a way of self-realization when they can interact with a second language (Macintyre, Babin, and Clément, 1999; Torras and Gafaranga, 2002; Clément, Baker, and MacIntyre, 2003). In some situations, people may prefer a second language, especially when dealing with a hedonic experience (Holbrook and Hirschman, 1982). This preference is more prevalent when the customer is searching for authenticity (Kraak and Holmqvist, 2017; Baker and Kim, 2018). The reason is that, because they want to obtain the true essence of a destination (Kima and Kim, 2020); serving customers in their native language is not necessarily a general recommendation to follow. The results obtained by

Mariani et al. (2020) support the idea that, when customers use and understand the language of the service provider, their online evaluations are positively affected regardless of the destination they travel to or the country they come from.

Importantly, even though English is a global lingua franca (Crystal, 2003), different attitudes may elicit distinct outcomes toward its use. Goethals (2014) raised some concerns regarding the assumption of English being the default language for communication in tourism. The author points out the different effects of using the individual's mother tongue and English as a lingua franca. In the former case, the individual may perceive this attempt as familiar and positive. In the latter case, the individual may perceive no extra effort made on the part of the host. Individuals may feel that they are putting more effort than the service provider because they assume that, in the tourism sector in developed countries, some of the professionals interacting with them (e.g., guides and clerks) should be multilingual and able to communicate with, for example, hotel guests in their languages. From a sociolinguistic perspective, when two individuals interact and do not share the same language, the lower status interlocutor generally adjusts (linguistic accommodation) and attempts to speak the language of the higher status interlocutor to create a positive impression (Dragojevic, Gasiorek and Giles, 2015). Analogously, in the context of consumer-service providers, consumers would assume that service providers should accommodate (Callahan, 2006). These expectations may differ considerably depending on the linguistic group of the individual (Tuna, 2006). For example, members of a group with a minority language will adjust to establish greater rapport or to be courteous (Bell and Puzakova, 2017)), the destination being visited (Traiger, 2008), and the formality of the conversation (Cohen and Cooper, 1986). Evidently, the linguistic proficiency will determine the individual's language preference (Flyman-Mattsson and Burenhult, 1999; Callahan, 2006).

By outlining these arguments, we see that language use is presented as a service component affecting overall satisfaction. In line with the literature on satisfaction, the performance of an attribute, such as language use, is compared with the individual's expectations of that performance (Olander, 1977). In this framework, Dissonance Theory (Festinger, 1957) posits that individuals undergoing some internal inconsistency will try to reduce their cognitive dissonance by including new inputs that dissipate any potential contradictory outcomes. However, these perceptions may vary, and Contrast Theory (Sherif and Hovland, 1961) can take over, which postulates that, when this difference between the expected and actual service occurs, the consumer tends to "exaggerate"

the discrepancy. More relevant to our attribute in question is the Kano model (Kano, 1984), which proposes five types of attributes leading to satisfaction: i) must-be attributes, which are considered to be essential attributes that must exist for customers to get satisfaction; ii) attractive attributes, which are unexpected attributes that add extra value to the service and do not bring about dissatisfaction if they are not available; iii) one-dimensional attributes, with which customers become (dis)satisfied if the attributes are (un)available; iv) indifferent attributes, whose availability does not influence satisfaction; and v) reverse attributes, whose presence leads to dissatisfaction and absence brings about satisfaction. For the attribute "language use," addressing hotel guests (unexpectedly to them) in their native language, which is different from the destination's language, could be an attractive attribute for some and an indifferent attribute for others. Hotel staff's skill to speak in English with customers would be a must-be attribute.

Therefore, considering that language use is expected to affect satisfaction, we state the following basic hypothesis to look into the potential intricacies of the relationship between language use and satisfaction in the subsequent hypotheses. Thus, we state the following hypothesis:

H1 *The use of the language of a service provider affects customer satisfaction.*

The dyad formed by the extreme vs. moderate character of the opinion on the use of language and its sign (positive vs. negative) can explain satisfaction.

Regarding the extreme vs. moderate character of opinions, customers tend to perceive extreme opinions as more unambiguous than positive ones, particularly when it comes to product judgment (Maheswaran & Sternthal, 1990). Along this line, the literature has shown that, in general terms, extreme ratings are more valuable than moderate ratings (Fang et al., 2016). From a psychological viewpoint, an extreme opinion reflects a large discrepancy from a central point reflecting "attitude extremity" (Krosnick et al., 1993), which conveys higher informational elements. This finding is obtained in general contexts by Forman et al. (2008) and Pavlou and Dimoka (2006) and in tourism and hospitality by Park and Nicolau (2017). We expect that this pattern of reactions to extreme vs. moderate opinions applies to an outcome judgment such as satisfaction. Thus, we state the following hypothesis:

H2 *Extreme opinions on the use of language have a greater effect on satisfaction than moderate opinions.*

Positive and negative opinions are found to exert different effects on several dimensions. For instance, Park and Nicolau (2017) find that negative reviews enhance usefulness and enjoyment

to a greater extent than positive reviews. The greater effect of "bad news" than "good news" on people's judgment is explained by the cognitive bias called "negativity bias" (Cacioppo, Gardner, & Berntson, 1997): "with each unit of activation, the change in negative motivational output is larger than the change in positive motivational output." In other words, for any psychological state, the effect of elements with negative components is greater than elements with positive components. In tourism and hospitality, apart from Park and Nicolau (2017), other authors, such as Zhang, Zhang, and Yang (2016) and Tanford and Kim (2018), have found evidence of this cognitive bias when potential customers look at reviews before making their reservations. Accordingly, this cognitive bias as applied to a psychological state should affect satisfaction, leading to asymmetrical effects of positive vs. negative opinions on satisfaction. Thus, we state the following hypothesis:

H3 *Negative opinions on the use of language have a greater effect on satisfaction than positive opinions.*

While some evidence of the language-satisfaction nexus exists (Hypothesis 1), this study goes a step further. It measures the variable "use of language" by looking at the reviews and extracting categories that allow us to uncover potential asymmetric effects between moderate and extreme opinions (Hypothesis 2) and between positive and negative opinions (Hypothesis 3).

3. RESEARCH DESIGN

3.1. Data and Variables

Data

For our analysis, we used hotel guests' online opinions obtained through content analysis. The easy accessibility of consumer-generated content on the Internet offers new research possibilities (Kaosiri et al., 2020) and permits collecting comments that guests spontaneously share with their friends (Giles et al., 2013; Lawson and Jaworski, 2007). Content analysis allows researchers to produce inferences from verbal, symbolic, or communicative data. It extracts relevant information and encodes it into distinct categories, which are subsequently examined through statistical techniques (Hsieh and Shannon, 2005).

This study looks at guests' opinions about hotels these guests have stayed and have published on the Internet. Hotel guests are particularly sensitive to others' comments (Book et al., 2018; Rouliez et al., 2019; Xu, 2019). Thus, ratings about hotels are among the elements that guests first look at

before making a reservation (Park et al., 2017). Potential guests are highly likely to read reviews before booking accommodation (Book et al., 2018).

We use Booking.com to collect the data because of its size and popularity in Europe. The specific destination chosen for the study was the city of Barcelona, Spain. Barcelona is responsible for Catalonia being the most visited Spanish region, with the highest proportion of international tourists (23.8% of the international tourists who visited Spain in 2016, i.e., 17.9 million). Barcelona has 501 hotels listed on Booking.com (out of the existing 678 establishments).

Following the recommendation made by Mariani et al. (2020), several linguistic groups have been considered to try to overcome one of the limitations of the existing literature that has used mostly comments in English for the analysis. Specifically, 48,491 comments made by guests from France (22,161 observations), Germany (9,264), Italy (15,039), and Portugal (2027) for 12 months in 2016 were considered. These four countries met two requirements. They are not European multilingual or English-speaking (from a native viewpoint). These countries are important for tourism in the city of Barcelona; in 2016, 8.4% of hotel guests in Barcelona were from France, 6.4% from Italy, 6.0% from Germany, and 1.2% from Portugal (Observatori del Turisme a Barcelona i Comarques, 2017). Only international tourist reviews were considered to control the home country biases as proposed by Gao et al. (2018).

Using 499 out of the 501 properties in Barcelona listed on Booking.com, we collected 48,491 customer reviews (see Table 1). Two hotels had no comments in line with the requirements. The four-star hotels attracted the most comments, followed by the three-star guesthouses, pensions, residences, and hostels (category 1) (Table 1). The 5-star hotels, followed by the 2-star, attracted the least comments. The comments/hotel ratio shows that the guests most willing to comment on their stays were those who stayed in 2*, 3*, 4*, and 1* hotels (in order), whereas guests of the most luxurious establishments (5*) were the most reluctant to comment. The average overall rating for the entire sample is 8.06, with 8.14, 8.08, 8.01, and 7.93 given by people from Italy, Germany, France, and Portugal, respectively.

Table 1: Number of hotels and comments by hotel category

	1*	2*	3*	4*	5*	*Total*
Hotels	138 27.6%	40 8.0%	117 23.4%	170 34.1%	34 6.8%	*499*
Comments	10,528 21.7%	4,961 10.2%	13,100 27.0%	18,334 37.8%	1,568 3.2%	*48,491*
Ratio comments/hotel	76.29	124.0	112.0	107.8	46.1	*97.2*

Note: The horizontal %s reflect the weighting of each category.

The collected reviews were analyzed to identify language-related comments. All the reviews were manually checked. In this way, we attempted to overcome one of today's greatest limitations of automated processes (e.g., sentiment analysis), which is understanding the noise that a text may contain, such as sarcasm, colloquial expressions, idioms, phrases, or spelling errors (Niño, 2020).

Variables

Dependent variable: The satisfaction variable was measured through the overall rating that Booking.com published for each hotel, in a 2.5–10 scale (Mellinas et al., 2015; Gao et al., 2018). Given that satisfaction is considered a subjective quality, the assessments that guests make of their hotel experiences are the most commonly used tools in its measurement (Kozak, 2001; Schiffman and Kanuk, 2000). These ratings are an up-to-date reflection of guests' online satisfaction and are regarded as more unbiased, comprehensive, and more objective than traditional questionnaires (Bigné et al., 2020).

Independent variables: The comments on the use of language during the service encounter were classified based on Goethals (2016)'s procedure. In line with this work, the comments were characterized as positive or negative. A comment was considered stressed if it had explanatory text, used punctuation such as exclamation marks, presented specific areas for improvement, made direct contrasts with other guests' comments, or used expressions that emphasized the competence of the person providing the service (perfect and very fluent). Comments were labeled as moderate when they contained elements apologizing for behavior when using expressions as counterpoints and attempting to reduce negative consequences. Comments in this category normally use positive

and negative expressions. In this case, the main expression classifies the comment as positive or negative and is given emphasis. Another text follows this expression in the opposite direction that tried to moderate the previous one. For example, "*The staff did not speak French, but they tried to be very friendly and communicative*" (moderate negative) or "*They spoke Italian, although sometimes we had some difficulties understanding them*" (moderate positive). This classification system resulted in six possible combinations: stressed negative, negative, moderate negative, moderate positive, positive, and stressed positive (moderate negative is taken as the baseline).

Table 2. Descriptive statistics

Variable	Proportion/mean
Stressed negative	9.40%
Negative	9.70%
Moderate negative	13.10%
Moderate positive	23.60%
Positive	28.50%
Stressed positive	15.70%
1 star+hostels	21.80%
2 stars	10.20%
3 stars	27.00%
4 stars	37.80%
5 stars	3.20%
Motivation (Leisure)	91.10%
Trip party (Alone)	14.20%
Review language (Spanish)	1.20%
Review language (English)	7.70%
Relative prices	1.002 (Std. Dev=0.008)

Regarding the control variables, we use five dimensions: i) Hotel class. In line with Zhang et al. (2020), as the hotel class reflects the hotel quality, customers form their expectations accordingly. These authors find that the levels of customer satisfaction vary depending on the hotel class. This result has been confirmed recently by the study of Bi et al. (2020), where this variation in satisfaction across hotel classes occurs not only at the overall satisfaction level but also at the attribute level. Hotel class is reflected by a categorical variable that measures the hotel's official number of stars (1–5) (1-star hotels and hostels were used as the baseline) in line with Mariani et al. (2020).

Also, Bi et al. (2020) empirically demonstrate that it is critical to control for traveler types to fully understand their preferences and satisfaction levels with hotels. Specifically, they include and combine two classifications in their analysis: business vs leisure travelers, and the taxonomy "solo, friends, family and couple". According to these authors, to control the effects of traveler types on hotel satisfaction, we add the following second and third dimensions to our analysis: ii) Motivation for the trip, which is captured by a dummy variable that takes value one for leisure and zero for business (Mariani et al., 2020). iii) Trip party determines whether the individual traveled alone (dummy variable takes value one) or with someone else (dummy variable takes value zero) (Daehwan et al., 2017).

iv) The language in which the review was written. The inclusion of this control variable is justified by the results obtained by Liu et al. (2017) who find that the use of a specific language conditions the importance that the customers give to hotel attributes as well as the overall satisfaction with a hotel. The language in which the review was written is measured through dummy variables (Mariani et al., 2020) to reflect the different languages analyzed: German, French, Italian, Portuguese, English, or Spanish. We used the mother tongue of each guest as the baseline. v) Relative prices between the guest's country and the destination (Park et al., 2020). Price differentials between origins and destinations reflect disparities in cost of living and, according to Saayman et al. (2016), these price differentials show—from the customer's perspective—whether a service is more (less) expensive than the prices paid in their countries of origin. This is especially relevant when this monetary dimension is analyzed along with satisfaction because customers use them to form their perceptions of "value for money". For this empirical application, we utilize the World Bank "consumer price index differentials among origins and destinations," which show the cost of living in the origins and destinations. We calculated the relative prices by dividing the consumer price index of the guests' countries by the consumer price index of the destination in line with Saayman et al. (2016). Table 2 presents the descriptive statistics of the variables used in the models.

3.2. Methodology

To analyze the effect of the reviews of the hotel's use of language on overall satisfaction (hotel ratings), we used a cross-section Tobit model. This model is appropriate because of the censored range of the dependent variable. Booking.com's "overall satisfaction" range goes from 2.5 to 10 (Mellinas et al., 2015). Thus, we only observe $OS^{*}=\min(OS,10)$ because of the right censoring and

409 OS^*=max(OS,2.5) because of the left censoring. Therefore, a Tobit model was used to capture
410 these limits and avoid potential downward-biased parameter estimates (Amemiya, 1973).
411 Consistent estimates were obtained. The model is expressed as follows:

412 $$OS_i = \alpha + \sum_{k=1}^{K} \beta_k RHUL_{ik} + \sum_{s=1}^{S} \gamma_s CV_{is} + \varepsilon_i \text{ ,} \quad (1)$$

413 where OS_i is the overall satisfaction (*rating*) of hotel i, $RHUL_{ik}$ is category k of the variable
414 "reviews of the hotel's use of language", β_k is the parameters associated with these k categories,
415 CV_{is} is control variables (class of hotel, trip motivation, trip party, language used in the review,
416 and relative prices), γ_s is the parameters that capture their effects, and ε_i is a normally-distributed
417 error term.
418 In this model, the inclusion of "reviews of the hotel's use of language" ($RHUL_{ik}$) as independent
419 variable to explain the dependent variable (OS_i) could raise endogeneity issues. While we expect
420 that language has an impact on overall satisfaction, it is possible that satisfaction may also affect
421 the perception of the use of language (e.g., satisfied guests may care less about language use at
422 their hotels). Thus, a possible concern in estimating the model is that the error term may be
423 correlated with the independent variable that reflects the perceptions of the use of language (i.e.
424 $RHUL_{ik}$), which may give rise to an endogeneity problem. Specifically, we can break down the
425 error term ε_i into two components: u_{it}, which is uncorrelated with $RHUL_{ik}$, and v_i, which is
426 correlated with $RHUL_{ik}$. Thus, this correlated component may capture the influence of any
427 potential latent variables that can have an effect on OS_i and $RHUL_{ik}$. To control for this potential
428 endogeneity, we used Gaussian copulas, which is an instrument-free approach that uses a control
429 function to model directly the joint distribution of the error term and the variable that can be
430 endogenous (Park and Gupta, 2012). The copula terms for the variables related to the "perception
431 of the use of language" (i.e., one continuous variable [Opinion] and five categorical variables [from
432 stressed negative to stressed positive]) are obtained as follows:

433 $$Opinion_i^c = \emptyset^{-1}\left[H_{Opinion}(Opinion_i)\right]$$

434 $$Stressed\ negative_i^c = \emptyset^{-1}\left[H_{Stressed\ negative}(Stressed\ negative_i)\right]$$

435 $$Negative_i^c = \emptyset^{-1}\left[H_{Negative}(Negative_i)\right]$$

436 $$Moderate\ positive_i^c = \emptyset^{-1}\left[H_{Moderate\ positive}(Moderate\ positive_i)\right]$$

437 $$Positive_i^c = \emptyset^{-1}[H_{Positive}(Positive_i)]$$

438 $$Stressed\ positive_i^c = \emptyset^{-1}\left[H_{Stressed\ positive}(Stressed\ positive_i)\right],$$

where $\emptyset^{-1}$ is the inverse of the cumulative normal distribution and $H_{Opinion}(Opinion_i)$, $H_{Stressed\ negative}(Stressed\ negative_i)$, $H_{Negative}(Negative_i)$, $H_{Moderate\ positive}(Moderate\ positive_i)$, $H_{Positive}(Positive_i)$, and $H_{Stressed\ positive}(Stressed\ positive_i)$ are the empirical distribution function of $Opinion_i$, $Stressed\ negative_i$, $Negative_i$, $Moderate\ positive_i$, $Positive_i$, and $Stressed\ positive_i$.

A requirement for this method to be applied is that the empirical distribution of the endogenous regressor should not follow a normal distribution (Park & Gupta, 2012). Thus, the non-*normal* distribution of these variables has to be tested. The Jarque-Bera test confirms that the variables $Opinion_i$ ($JB_{Opinion}$=50, p<0.01), $Stressed\ negative_i$ ($JB_{Stressed\ negative}$=4485, p<0.01), $Negative_i$, ($JB_{Negative}$ =4075, p<0.01), $Moderate\ positive_i$, ($JB_{Moderate\ positive}$=445, p<0.01), $Positive_i$ ($JB_{Positive}$=336, p<0.01), and $Stressed\ positive_i$ ($JB_{Stressed\ positive}$=1170, p<0.01) do not follow a normal distribution. Endogeneity exists if significant parameters are found for the copulas, and those significant parameters must be included in the estimation. Consequently, following Mathys et al.'s. (2016) two-stage procedure, we first included copulas for $Opinion_i$, $Stressed\ negative_i$, $Negative_i$, $Moderate\ positive_i$, $Positive_i$, and $Stressed\ positive_i$ in the model estimation and then maintained the copulas that were significant to produce the definitive estimates corrected for endogeneity.

4. RESULTS

Before the Tobit model is estimated, a test was made for the existence of collinearity. The variance inflation factors were computed. As observed in Table 3, none of them is greater than 10 (Neter et al., 1989), and the highest reached 2.31. These results are confirmed by looking at the low correlations between the different independent variables (see Table 4). Also, as the estimation does not converge if we include the country-fixed effects and the variable "relative prices" at the same time, we run two sets of regression models to separate both dimensions. The Breusch-Pagan test showed that heteroskedasticity exists (F-statistic=7.02; p<0.001). Accordingly, white heteroskedasticity-consistent standard errors were computed in the estimation of the parameters. The Breush-Godfrey serial correlation test did not present significant values (F-statistic=0.24; p=0.623).

Table 3. Variance infaltion factors of the independent variables

Variables	Variance inflation factor
Stressed negative	1.572
Negative	1.593
Moderate positive	2.186
Positive	2.317
Stressed positive	1.876
2 stars	1.471
3 stars	1.809
4 stars	1.928
5 stars	1.119
Motivation (Leisure)	1.103
Trip party (Alone)	1.190
Review language (Spanish)	1.019
Review language (English)	1.053
Relative prices	1.042

Table 4. Correlations between independent variables

	Stressed negative	Negative	Moderate negative	Moderate positive	Positive	Stressed positive	Opinion	Stars	Motivation (Leisure)	Trip party (Alone)	Review language (Spanish)	Review language (English)	Relative prices
Stressed negative	1.00												
Negative	-.106**	1.00											
Moderate negative	-.125**	-.128**	1.00										
Moderate positive	-.179**	-.183**	-.216**	1.00									
Positive	-.203**	-.207**	-.246**	-.351**	1.00								
Stressed positive	-.139**	-.141**	-.168**	-.239**	-.272**	1.00							
Opinion	-.516**	-.416**	-.335**	-.117**	.450**	.644**	1.00						
Stars	0.017	0.027	-0.008	-0.039	0.003	0.012	-0.005	1.00					
Motivation (Leisure)	0.006	-0.024	.056*	-0.009	-0.018	-0.005	-0.018	-.058**	1.00				
Trip party (Alone)	0.006	0.036	-.062*	0.047	-0.028	0.004	-0.009	-.116**	-.412**	1.00			
Review language (Spanish)	0.026	.066**	-0.019	-0.027	-0.004	-0.021	-0.042	-.041**	-.062**	.081**	1.00		
Review language (English)	.071**	0.033	-0.03	-0.036	-0.008	-0.003	-0.038	-.056**	-.089**	.162**	-.032**	1.00	
Relative prices	0.025	0.018	-0.019	0.046	-.057*	0.001	-0.035	-.096**	-.039**	0.003	0.006	.022**	1.00

**= prob<1%; *= prob<5%

Models 1 and 2 in Table 5 show the treatment of endogeneity when the variable "relative prices" is included among the independent variables, and Models 3 and 4 show the country fixed effects. When introducing the five copula terms, we find that only the copula for $Positive_i$ is significant in Models 1 and 3 (which correspond with the first stage of Mathys et al.'s. (2016) two-stage procedure). Therefore, in line with this procedure, in the final models (Models 2 and 4), we include the copular term for $Positive_i$ only. The fact that at least one copula term is significant indicates endogeneity.

In general, we observed that the parameters of interest presented similar estimates in terms of sign and significance across the two models (Models 2 and 4), indicating that the results are robust. Specifically, we observed a clear pattern in the reviews from "stressed negative" to "stressed positive." "Stressed negative" had the biggest negative impact on satisfaction (compared with the baseline of "moderate negative," whose parameter is assumed to be 0). The category "negative" significantly reduced this negativity, but its effect remained substantially different from the baseline "moderate negative." The parameter of the category "moderate positive" is significant and positive, which means that it is greater than the effect of the category "moderate negative." The category "positive" had a significant and positive parameter, just slightly greater than the previous ("moderate positive"). Finally, the impact of the category "stressed positive" was significant—the most positive of all six categories. Consequently, these results support hypothesis H1 that the use of a service provider's language affects customer satisfaction. Therefore, the use of language opinions has a positive effect on satisfaction.

Table 5. Effect of the reviews about the hotel's use of language on overall satisfaction
(White heteroskedasticity-consistent standard errors in parenthesis)

Variables	Model 1	Model 2	Model 3	Model 4
Stressed negative	-1.0169a	-1.0174a	-1.0255a	-1.0259a
	(0.1768)	(0.1764)	(0.1771)	(0.1766)
Negative	-0.389c	-0.3902c	-0.4193c	-0.4205c
	(0.1753)	(0.175)	(0.1759)	(0.1755)
Moderate positive	0.7896a	0.7885a	0.7862a	0.7848a
	(0.1378)	(0.1374)	(0.137)	(0.1366)
Positive	0.9309a	0.9302a	0.899a	0.8982a
	(0.1275)	(0.1272)	(0.1288)	(0.1285)
Stressed positive	1.1762a	1.1751a	1.1486a	1.1471a
	(0.1376)	(0.1372)	(0.1378)	(0.1374)
2 stars	0.4138b	0.4163b	0.4145b	0.4176b
	(0.1424)	(0.1422)	(0.1423)	(0.1421)
3 stars	0.5606a	0.5612a(	0.5551a	0.5558a
	(0.1159)	0.1159)	(0.1156)	(0.1157)
4 stars	0.6667a	0.6674a	0.6782a	0.679a
	(0.1122)	(0.1122)	(0.1121)	(0.1122)
5 stars	1.5014a	1.5026a	1.5108a	1.5124a
	(0.2062)	(0.206)	(0.2051)	(0.205)
Motivation (Leisure)	0.4537b	0.4545b	0.477b	0.4778b
	(0.1689)	(0.1686)	(0.1692)	(0.169)
Trip party (Alone)	-0.0661	-0.0657	-0.0496	-0.049
	(0.1365)	(0.1364)	(0.1361)	(0.1361)
Review language (Spanish)	0.4058	0.4064	0.4678	0.4691
	(0.8287)	(0.8339)	(0.8644)	(0.8706)
Review language (English)	0.2056	0.2082	0.241	0.2436
	(0.2444)	(0.2441)	(0.2496)	(0.2494)
Relative prices	9.099d	9.0648d		
	(5.1603)	(5.1608)		
Copula*Stressed negative*	-0.0415		-0.0493	
	(0.1595)		(0.1604)	
Copula*Negative*	-0.0026		0.0051	
	(0.1623)		(0.1617)	
Copula*Moderate positive*	-0.0139		-0.0162	
	(0.2446)		(0.2447)	
Copula*Positive*	0.7633c	0.7584c	0.7423c	0.7367c
	(0.306)	(0.3058)	(0.3056)	(0.3055)
Copula*Stressed positive*	-0.026		-0.0339	
	(0.1916)		(0.1917)	
Constant	-2.5563	-2.5627	7.3529a	7.3009a
	(5.1527)	(5.1581)	(0.6175)	(0.5744)
Country fixed effects			Yes	Yes
Observations	1674	1674	1674	1674

a= prob<0.1%; b= prob<1%; c= prob<5%; d= prob<10%.

By way of robustness checks, we tested whether this increasing effect over the range of the opinion on the use of the language holds for different specifications of this opinion. Specifically, we considered two alternative definitions of the opinion on the use of language: Models 5 and 6 in Table 6 show the effect of the use of language by using the two main categories, "moderate

524 negative" and "moderate positive," as the baseline to provide an alternative measure of neutrality[1].
525 We see that the growing effect of the use of language opinion on satisfaction holds for Model 5,
526 which includes relative prices, and Model 6, which includes country fixed effects. Models 7 and 8
527 in Table 6 convert the opinion categories into a continuous variable with a 1–6 range. As before,
528 the positive effect of this variable is found in both models: Model 7 includes relative prices, and
529 Model 8 includes country fixed effects.
530

Table 6. Robustness checks

Variables	Model 5	Model 6	Model 7	Model 8
Opinion			0.6958a	0.7012a
			(0.0814)	(0.0812)
Stressed negative	-1.4958a	-1.5026a		
	(0.1538)	(0.1545)		
Negative	-0.8944a	-0.9222a		
	(0.1516)	(0.1523)		
Moderate positive	-	-		
Positive	0.4185a	0.3892a		
	(0.0918)	(0.0933)		
Stressed positive	0.6664a	0.6414a		
	(0.105)	(0.1054)		
2 stars	0.5161a	0.5163a	0.4138b	0.4134b
	(0.1446)	(0.1444)	(0.1422)	(0.1421)
3 stars	0.6387a	0.6325a	0.5708a	0.5649a
	(0.1187)	(0.1186)	(0.1169)	(0.1167)
4 stars	0.7171a	0.7277a	0.678a	0.6874a
	(0.1156)	(0.1155)	(0.1132)	(0.1132)
5 stars	1.4865a	1.497a	1.5606a	1.5724a
	(0.2097)	(0.2086)	(0.203)	(0.2019)
Motivation (Leisure)	0.4458b	0.4685b	0.445b	0.4674b
	(0.1709)	(0.1712)	(0.1681)	(0.1684)
Trip party (Alone)	0.0182	0.0336	-0.0376	-0.0221
	(0.1406)	(0.1402)	(0.1381)	(0.1379)
Review language (Spanish)	0.4519	0.5121	0.4249	0.4745
	(0.8292)	(0.8631)	(0.8001)	(0.8324)
Review language (English)	0.2049	0.2405	0.1647	0.1916
	(0.2498)	(0.2554)	(0.2519)	(0.2574)
Relative prices	9.1644d			
	(5.2534)		9.4634d	0.4134b
			(5.1663)	(0.1421)
Country fixed effects		Yes		Yes
Copula$_{Opinion}$			-0.4046a	-0.4195a
			(0.1166)	(0.1164)
Copula$_{Negative}$	-0.4325b	-0.4077c		
	(0.1621)	(0.1614)		
Constant	-1.620	8.3084a	-4.8595	5.3661a
	(5.2577)	(0.5474)	(5.1794)	(0.6263)

531 a= prob<0.1%; b= prob<1%; c= prob<5%; d= prob<10%

[1] It is worth noting that sentiment analyses usually do not consider neutral reviews because of the binary classification generally employed and the ambiguity inherent in neutral reviews (Valdivia et al., 2018). In fact, these authors make two modelling proposals—based on consensus through polarity aggregation—to detect and filter neutrality, thereby removing the potential noise derived from not including neutral reviews, and consequently improving the performance of the models that analysts use. In our empirical application, the occurrence of a neutral comment is not frequent or even easy to happen because of the following: 1) If the customers mention the language issue when posting a comment, it means that they do not remain neutral to this topic. They mention this issue because they care and a direction—positive or negative—is expected. 2) Booking.com forces the user to decide whether the comment is included as a positive or negative aspect. Still, to play it safe, we conduct the alluded robustness check.

In Table 5, the significant differences between "stressed negative opinions" and "moderate negative opinions" and between "stressed positive opinions" and "moderate positive opinions" support hypothesis H2 that extreme opinions on the use of language have a more significant effect on satisfaction than moderate opinions.

In addition, of interest is whether the effects of negative vs. positive reviews about the hotel's use of language on satisfaction are symmetric or asymmetric. In other words, is the size (in absolute terms) of the effect of "stressed negative reviews," "moderate negative," and "negative" equal to the size of the effect of "stressed positive reviews," "moderate positive," and "positive" respectively? The results showed that, while the extreme variables (stressed negative vs. stressed positive) have symmetric impacts and are not significantly different in absolute terms, the effects of "moderate positive" and "positive" are significantly greater than the effects of "moderate negative" and "negative," respectively. Therefore, asymmetric impacts were observed. These results do not allow us to accept hypothesis H3, that negative opinions on the use of language have a greater effect on satisfaction than positive opinions. Specifically, for stressed reviews, similar effects are found; for moderate and neutral reviews, the effect of negative opinions on the use of language is smaller than the effect of positive opinions.

The results show that, in the context of this analysis, the language used during the hotel service encounter helps to explain differences in online opinions and customer satisfaction, complementing recent research on intercultural communication in hospitality services and demonstrating that the choice of language plays an important role in the outcome of interactions (Cenni et al. 2020; Sieg et al., 2012). Recall that guests' assessments of a particular hotel show their level of satisfaction at a given time of post-purchase behavior (Gu and Ye, 2014). Although extreme opinions have symmetric impacts on satisfaction (i.e., very positive and very negative opinions have similar effects), moderate reviews present asymmetric effects, and positive reviews have a greater effect than negative reviews, which does not support the notion of negativity bias. An explanation for these effects may be found in the different expectations held by the customers (Callahan, 2006). Guests generally expect their interlocutors to speak their language of origin (Cenni et al., 2020) or a lingua franca in which they are competent—which would be qualified as a *must-be attribute* in Kano's model. Thus, an encounter in their mother tongue falls within their tolerance zone. Specifically, this situation would be qualified as an *attractive attribute* in Kano's model. In this case, greater knowledge on the part of employees of the guest's mother tongue

results in a greater propensity for the guests to comment on their linguistic experience, which, in turn, has a greater effect on overall assessments (Holmqvist and Grönroos, 2012). Even for less knowledge of the guest's mother tongue, its use by the employee, even if it is heavily accented, makes a positive surprise for the guest (also an *attractive attribute*). If the employee's accent is excessively strong, guests will switch to a second language that is the one they would expect to use. Guests may get the employee's impression trying to please them by welcoming them in their native language and may see this gesture as a positive surprise (Miller et al., 2000, Shostack, 1984). This impression would explain why moderate positive assessments have a greater effect on satisfaction than moderate negative assessments. In other words, the tolerance of language use is higher compared with different contexts to ensure that negativity bias does not apply. This greater value assigned to positive opinions compared with negative opinions can also be explained by Dissonance Theory, given that people seem to minimize faulty linguistic attempts.

Regarding the control variables, the effects of hotel stars were significantly greater than the baseline (1-star hotels and hostels), and 5-star hotels have the highest impact on satisfaction. The results are in line with the work of Francesco and Roberta (2019), who found that stars can affect the emphasis put on hotel attributes and the perception of the performance of those attributes. The motivation "leisure" had a greater effect on satisfaction than "business," according to Radojevic et al. (2018), who found that business travelers generally report lower levels of overall satisfaction than leisure travelers. They argue that business travelers are more experienced, demanding, and critical than leisure travelers. Finally, the relative prices were significant and positive; when the destination country has lower prices than the guest country, more satisfaction is brought about. According to Saayman et al. (2016) this index reflects the cost of living of the destination, thereby representing "the competitiveness of destination country for tourists of the origin country" (p. 1282).

5. CONCLUSIONS

The intercultural nature of tourism makes interpersonal communication a critical element that influences guests' experiences and, consequently, their satisfaction. In this context, using a particular language will influence the guest's perceptions and assessment of service quality. Most

of the existing research has examined indirect communication (e.g., advertising), and literature about the effect of language use on the guest experience is quite limited. Accordingly, this article attempts to bridge this gap by examining perceptions of service providers' use, non-use and misuse of the guest's mother tongue and analyzing their effect on the overall service assessments.

We used content analysis to examine online guest opinions. Researchers in this context have frequently used quantitative survey data, often neglecting qualitative, textual information that can be critical to understanding the customer experience further (Villaroel-Ordenes et al., 2014). Consequently, following Goethals (2016) procedure, we formulated a variable that classified these qualitative opinions. A Tobit model that considers the censored character of the dependent variable is used by controlling endogeneity through Gaussian copulas.

The results show that the use of language of a service provider affects customer satisfaction. A positive effect of use of language opinions on satisfaction is found, extreme opinions on the use of language have a greater effect on satisfaction than moderate opinions, and negative opinions on the use of language do not have a more significant effect on satisfaction than positive opinions.

As for managerial implications, considering the interactive and intangible nature of tourism services, the use of language is critical, and service providers should make an effort to understand how they are performing in terms of their linguistic skills. The different impacts of speaking in a lingua franca or the guest's mother tongue need to be recognized; both situations can involve considerable effort for the tourism professional. Specifically, tourists can be asked what language they prefer to use during their stay before their arrival. If this process is impossible, the interaction should consider the language they originally used because the country of residence or origin is now always a good indicator of preference. Identifying the mother tongue should be easier in hotels located in destinations dominated by tourists of certain nationalities (e.g., border territories or destinations that traditionally receive many tourists from the same country). Hotels must consider when the tourist's mother tongue is used and what needs to be understood by the provider, which is more important than the need to understand the provider (Wang et al., 2015). Thus, from a strategic perspective, companies must go further and embrace the language preferences of their customers to show their inclusiveness and accommodative intentions. This endeavor is especially important when extremely negative reviews are posted. It is indicative of a significant reduction in satisfaction, as large as the increase associated with extremely positive reviews. Therefore,

recruiting service personnel with the necessary language skills and managing multilingual human resources is an extra challenge that managers must face (Harzing and Pudelko, 2013).

Although the results showed that the more skillful staff are, the more satisfaction customers derive. Even average performance is well received by guests. The guests appreciate staff making an effort to accommodate their preferences. Although a negative effect was obtained from non-extreme negative reviews, it was lower than the positive effect of non-extreme positive reviews. Consequently, if proficiency is unattainable, even a small effort seems to be appreciated by guests. Positive perception will have a positive effect on satisfaction. In other words, training focuses on language knowledge, understanding the client's language preferences, and adjusting to their language expectations. The functional and symbolic elements of the service experience are recalled. In this context, great importance should be attached to recognizing and understanding emotions (emotional intelligence) that arise during intercultural service encounters training frontline employees on matters of multiculturalism. For future research, linguistic comments could be referred to as the level of knowledge of the language and the attitude during the interaction to deepen their effects on satisfaction.

Considering the current situation with COVID-19, the results of this article have even more relevance. In a context wherein social distancing and mask-wearing are constant, finding ways to have personal relationships "closer" and the potential increase in satisfaction should be pursued. The communication tool, the language used, can contribute to this objective. Further research may analyze satisfaction at the destination level, which would show the impact of the use of language from a general viewpoint. Examining sub-impacts by looking at different types of tourism providers and residents' use of language would also be interesting.

The study is purposely delimited by four nationalities (France, Italy, Germany, and Portugal) that represent a high percentage of tourists that visit Barcelona. Nationalities that comply with the requirements of being countries that are not multilingual or English-speaking (from a native viewpoint). The use of four different nationalities allows for a certain degree of generalizability. A limitation may derive from the use of only one platform (Booking.com) from where the reviews were retrieved. Thus, more replications should be performed for future research by resorting to other platforms. Furthermore, as the category assignment of each linguistic comment has been carried out manually, comparing our results (given that the data have been categorized by humans) with the results achieved using automated methods (e.g., sentiment analysis) would be interesting

(Cambria et al., 2020; Dashtipour et al., 2020; Hung et al., 2021; Ray et al., 2021; Stappen et al., 2021).

This study contributes to the literature by testing and confirming the positive effect of language use opinions on satisfaction. The knowledge of the impact of the language in a cross-cultural context (tourism) has been deepened. Languages other than English are considered in a cross-linguistic context because the language of the destination country is neither the mother tongue of the tourist nor the language of their country of residence. By analyzing the dyad formed by the extreme vs. the moderate character of the reviews and their sign (positive vs. negative) and findings, we found that extreme opinions have a greater effect on satisfaction than moderate opinions and a departure from the well-established cognitive negativity bias that assumes that the effects of negative reviews should be greater than those of positive reviews. In particular, this article finds that extreme reviews have symmetric impacts on satisfaction (no matter whether these reviews are very positive or very negative), and moderate reviews show that asymmetric effects (positive reviews have greater effects than negative reviews).

REFERENCES

Alam, I. (2011). "Exploring cross-national differences in service innovation process and strategy in developing and developed nations", *Journal of Service Management*, 22 (5), 586-606.

Alcantara-Pilar, J.M., Blanco-Encomienda,F.J., Armenski,T., & Del Barrio-García,S. (2018).The antecedent role of online satisfaction, perceived risk online, and perceived website usability on the affect toward travel destinations. *Journal of Destination Marketing & Management*, *9*, 20-35.

Amemiya, T. (1973).Regression analysis when the dependent variable is truncated normal. *Econometrica*. 41 (6).997–1016.

Ayoun, B., & Moreo, P. J. (2008). Does national culture affect hotel managers' approach to business strategy?. *International Journal of Contemporary Hospitality Management*, 20(1), 7-18.

Baker, M. A., & Kim, K. (2018). The role of language, appearance, and smile on perceptions of authenticity versus rapport. *International Journal of Hospitality Management*, *74*, 171-179.

Balaji, M.S., Roy, S.K., and Lassar,W.M. (2017).Language divergence in service encounters: Revisiting its influence on word-of-mouth. *Journal of Business Research*, 72, 210-213.

Bell, M.L. and Puzakova, M. (2017), "Y usted? Social influence effects on consumers' service language preferences", *Journal of Business Research*, 72, 168-177.

Bi, J. W., Liu, Y., Fan, Z. P., & Zhang, J. (2020). Exploring asymmetric effects of attribute performance on customer satisfaction in the hotel industry. Tourism Management, 77, 104006.

Bigné, E., William,E., & Soria-Olivas,E. (2020).Similarity and consistency in hotel online ratings across platforms. *Journal of Travel Research*, *59*(4), 742-758.

Book, L.A., Tanford,S., Montgomery,R., & Love,C. (2018).Online traveler reviews as social influence: Price is no longer king. *Journal of Hospitality & Tourism Research*, *42*(3), 445-475.

Callahan, L. (2006).“English or Spanish?! Language accommodation in New York City service encounters”, *Intercultural Pragmatics*, 3-1, 29-53

Cambria, E., Li, Y., Xing, F. Z., Poria, S., & Kwok, K. (2020, October). SenticNet 6: Ensemble application of symbolic and subsymbolic AI for sentiment analysis. In *Proceedings of the 29th ACM international conference on information & knowledge management* (pp. 105-114).

Cenni, I., Goethals, P. & Vásquez, C. (2020). A cross-linguistic study of metacommunication in online hotel reviews. *Intercultural Pragmatics*, 17(4), 445-470.

Chen, J.S., and Hsu, C.H.U. (2000).“Measurement of Korean tourists’ perceived images of overseas destinations”, *Journal of Travel Research*, 38, 411–416.

Clément, R., Baker, S.C., & MacIntyre, P. D. (2003).Willingness to communicate in a second language: The effects of context, norms, and vitality. *Journal of language and social psychology*, *22*(2), 190-209.

Cohen, E. and Cooper, R.L. (1986).“Language and tourism”, *Annals of Tourism Research*, 13, 533–563.

Crystal, D. (2003).English as a Global Language. Cambridge, UK: Cambridge University Press.

Cui, H.J., Yao, F., Jin, X.T., Zhao, T.Y., Xu, W., & Smyczek, S. (2021).Effect of Regulatory Focus on Food Variety-Seeking Behavior of Chinese Tourists. *Journal of Hospitality & Tourism Research*, 1096348020988893.

Daehwan, A.; Hyanghee, P.; Byungjoon, Y. (2017): “Which group do you want to travel with? A study of rating differences among groups in online travel reviews”, *Electronic Commerce Research and Applications*, 25, 105-114

Dailey, R.M., Giles, H., and Jansma, L.L. (2005).Language attitudes in an Anglo-Hispanic context: The role of the linguistic landscape. Language & Communication, 25(1), 27–38.

Dann, G.M.S. (1996).The language of tourism: A sociolinguistic perspective. Oxon: Cab International.

Dashtipour, K., Gogate, M., Li, J., Jiang, F., Kong, B., & Hussain, A. (2020). A hybrid Persian sentiment analysis framework: Integrating dependency grammar based rules and deep neural networks. *Neurocomputing*, *380*, 1-10.

De Angelis, M., Tassiello, V., Amatulli, C., and Costabile, M. (2017).How language abstractness affects service referral persuasiveness. *Journal of Business Research*, 72, 119–126.

European Strategy for Multilingualism – European Council (2008), accessed on August 5, 2020 https://ec.europa.eu/education/policies/multilingualism/about-multilingualism-policy_en

Fang, B., Ye, Q., Kucukusta, D., & Law, R. (2016).Analysis of the perceived value of online tourism reviews: Influence of readability and reviewer characteristics. Tourism Management, 52, 498–506.

Festinger, L. (1957).A Theory of Cognitive Dissonance. California: Stanford University Press.

Forman, C., Ghose, A., & Wiesenfeld, B. (2008).Examining the relationship between reviews and sales: The role of reviewer identity disclosure in electronic markets. Information Systems Research, 19(3), 291–313.

Fox, R. (2008).“English in tourism: a sociolinguistic perspective”. *Tourism and Hospitality Management* 14: 13-22.

Francesco, G., & Roberta, G. (2019). Cross-country analysis of perception and emphasis of hotel attributes. *Tourism Management*, *74*, 24-42.

Gao, B; Li, X.; Liu, S., Fang, D. (2018): “How power distance affects online hotel ratings: the positive moderating roles of hotel chain and reviewers’ travel experience”, *Tourism Management*, 65, 176-186

Giles, H., Bourhis, R.Y. and Taylor, D.M. (1977).“Toward a theory of language in ethnic group relations”, in Howard Giles (ed.), *Language, Ethnicity, and Intergroup Relations*. London: Academic. 307–348.

Giles, H., Otab, H. and Foley, M. (2013).“Tourism: An intergroup communication model with Russian inflections”, *Russian Journal of Communication*, 5(3), 229–243.

Goethals, P. (2014).“La acomodación lingüística en contextos profesionales turísticos. Un enfoque didáctico basado en los testimonios de turistas”, Ibérica: Revista de la Asociación Europea de Lenguas para Fines Específicos (AELFE), 28, 181-202.

Goethals, P. (2016). Multilingualism and international tourism: a content-and discourse-based approach to language-related judgments in web 2.0 hotel reviews. *Language and Intercultural Communication*, *16*(2), 235-253.

Gopinath, M., Glassman, M. (2008).The effect of multiple language product descriptions on product evaluations. *Psychology Marketing*, 25 (3), 233–261.

Griffiths, I. and R. Sharpley (2012).“Influences of nationalism on tourist-host relationships”. *Annals of Tourism Research* 39: 2051-2072.

Hassan, N.S.; Tik, R.O; Yoke, V.L.; Nor, N.H. (2021): “Tourists’ complaints of interpersonal communication with tourism staff: a content analysis of online reviews”, e-Proceedings of International Conference on Language, Education, Humanities and Social Sciences (i_LEdHs2021), 637-649

Hofstede, G. (1980).*Culture's Consequences: International Differences in Work-Related Values.* Beverly Hills: Sage Publications.

Hogg, G., Liao, M.H. and O'Gorman,K. (2014)."Reading between the lines: multidimensional translation in tourism consumption", *Tourism Management*, 42, 157-164

Holmqvist, J. and Grönroos, C. (2012)."How does language matter for services? Challenges and propositions for service research", *Journal of Service Research*, 15(4), 430-442

Holmqvist, J., Van Vaerenbergh,Y. and Grönroos, C. (2014), "Consumer willingness to communicate in a second language: communication in service settings", *Management Decision*, 52 (5), 950-966.

Holmqvist, J., Van Vaerenbergh,Y. and Grönroos, C. (2017), "Language use in services: recent advances and directions for future research", *Journal of Business Research*, 72, 114-118.

House, J. (2003)."English as a lingua franca: A threat to multilingualism?", *Journal of Sociolinguistics*, 7(4), 556–578.

Hsieh, H.F. and Shannon, S.E. (2005)."Three Approaches to Qualitative Content Analysis", *Qualitative Health Research*, 15(9), 1277-1288.

Huisman, S. and Moore, K. (1999)."Natural language and that of tourism", *Annals of Tourism Research*, 26, 445–449.

Hung, C., Wu, W. R., & Chou, H. M. (2021). Improvement of sentiment analysis via re-evaluation of objective words in SenticNet for hotel reviews. *Language Resources and Evaluation*, *55*(2), 585-595.

Kano, Noriaki. "Attractive quality and must-be quality." Hinshitsu (Quality, The Journal of Japanese Society for Quality Control) 14 (1984).39-48.

Kim, K., & Baker,M.A. (2019).How the employee looks and looks at you: building customer–employee rapport. *Journal of Hospitality & Tourism Research*, *43*(1), 20-40.

Kim, M., & Kim, J. (2020).Destination Authenticity as a Trigger of Tourists' Online Engagement on Social Media. *Journal of Travel Research*, 0047287519878510.

Kim, S. and Filimonau, V. (2017)."On linguistic relativity and pro-environmental attitudes in tourism", *Tourism Management*, 63, 158-169.

Koliou, A. (1997)."Foreign languages and their role in Access to Museums", *Museum Management and Curatorship*, 16(1), 71–76.

Korfiatis, N., Garcia-Bariocanal,E. and Sanchez-Alonso,S. (2012) 'Evaluating content quality and helpfulness of online product reviews: The interplay of reviews helpfulness vs. review content', Electronic Commerce Research and Applications, 11(3), pp. 205-217.

Kozak, M. (2001)."Comparative assessment of tourist satisfaction with destinations across two nationalities", *Tourism Management*, 22, 391–401.

Kraak, J.M., and Holmqvist, J. (2017).The authentic service employee: Service employees' language use for authentic service experiences. *Journal of Business Research*, 72, 199-209.

Kuo, C.M. (2007).“The Importance of Hotel Employee Service Attitude and the Satisfaction of International Tourists”, *The Service Industries Journal*, 27(8), 1073-1085.

Lawson, S., & Jaworski, A. (2007).Shopping and chatting: Reports of tourist–host interaction in the Gambia. *Multilingua*, *26*(1), 67-93.

Leclerc, D. and J.N. Martin (2004).“Tour guide communication competence: French, German and American tourists’ perceptions”. *International Journal of Intercultural Relations* 28: 181-200.

Legohérel, P., Daucé, B. y Hsu, C.H. (2012).“Divergence in variety seeking: an exploratory study among international travelers in Asia”, *Journal of Global Marketing*, 5(4), 213–225.

Liu, Y., Teichert, T., Rossi, M., Li, H., & Hu, F. (2017). Big data for big insights: Investigating language-specific drivers of hotel satisfaction with 412,784 user-generated reviews. Tourism Management, 59, 554-563.

Lu, S.; Li, G. and Xu, M. (2020), “The linguistic landscape in rural destinations: A case study of Hongcun Village in China”, *Tourism Management*, 77, 104005.

Luna, D., Peracchio, L.A. (2002).Where there is a will…: motivation as a moderator of language processing by bilingual consumers. *Psychology Marketing*, 19 (7-8), 573–593.

MacIntyre, P.D., Babin,P.A. and Clément,R. (1999), “Willingness to communicate: antecedents & consequences”, *Communication Quarterly*, 47 (2), 215-229.

Maheswaran, D., & Sternthal, B. (1990).The effects of knowledge, motivation, and type of message on ad processing and product judgment. Journal of Consumer Research, 17(1), 66–73.

Mariani, M. M., Borghi, M., & Kazakov, S. (2019). The role of language in the online evaluation of hospitality service encounters: An empirical study. *International Journal of Hospitality Management*, *78*, 50-58.

Mariani, M. M., Borghi, M., & Okumus, F. (2020): “Unravelling the effects of cultural differences in the online appraisal of hospitality and tourism services”, *International Journal of Hospitality Management*, 90, 1022606

Mathys, J., Burmester, A.B. and Clement, M. (2016), “What Drives the Market Popularity of Celebrities? A Longitudinal Analysis of Consumer Interest in Film Stars.” *International Journal of Research in Marketing*, 33 (2), 428–48.

Mellinas, J.P., María-Dolores,S.M.M., and García,J.J.B. (2015).Booking. com: The unexpected scoring system. *Tourism Management*, 49, 72-74.

Morales, M. and Ladhari, R. (2011), “Comparative cross-cultural service quality: an assessment of research methodology”, *Journal of Service Management*, 22 (2), 241-265.

Neter, J., Wasserman, W., and Kutner, M.H. (1989) *Applied linear regression models*. 2nd Edition, Richard D. Irwin, Inc., Homewood.

Ngai, E.W.T., Heung,V.C.S., Wong,Y.H. and Chan,F.K.Y. (2007). "Consumer complaint behavior of Asians and non-Asians about hotel services", *European Journal of Marketing*, 41(11/12), 1375-1391.

Niño, A. (2020). Exploring the use of online machine translation for independent language learning. *Research in Learning Technology*, 28, 2402, 1-32, doi 10.25304/rlt.v28.2402

Observatori del Turisme a Barcelona i Comarques. 2016. "Estadístiques de turisme. Barcelona: ciutat i entorn." Accessed September 5, 2017. http://professional.barcelonaturisme.com/imgfiles/estad/Est2015.pdf.

Okafor, L.E.; Khalid, U. and Then,T. (2018), "Common unofficial language, development and international tourism", *Tourism Management*, 67, 127-138.

Olander, F., (1979) Consumer Satisfaction: A Sceptic's view. In H.K. Hunt (Ed.), *Conceptualization and measurement of consumer satisfaction and dissatisfaction*, 409-452, Cambridge: Marketing Science Institute.

Park, K., Ha,J., and Park,J.Y. (2017).An experimental investigation on the determinants of online hotel booking intention. *Journal of Hospitality Marketing & Management*, 26(6), 627–643.

Park, S. and Gupta, S. (2012). "Handling Endogenous Regressors by Joint Estimation Using Copulas." *Marketing Science*, 31 (4), 567–86.

Pavlou, P., & Dimoka, A. (2006).The Nature and Role of Feedback Text Comments in Online Marketplaces: Implications for Trust Building, Price Premiums, and Seller Differentiation. Information Systems Research, 17(4), 392-414.

Phipps, A.M. (2007).*Learning the Arts of Linguistic Survival: Languaging, Tourism, Life*. Bristol: Channel View Publications.

Puntoni, S., Langhe, B. and van Osselaer,S.M.J. (2009)."Bilingualism and the Emotional Intensity of Advertising Language", *Journal of Consumer Research*, 35 (6), 1012-1025.

Radojevic, T., Stanisic, N., Stanic, N., & Davidson, R. (2018). The effects of traveling for business on customer satisfaction with hotel services. *Tourism Management*, *67*, 326-341.

Ramchurjee, N.A. (2013), "Understanding the relationship between tourists' motivations and their experience and satisfaction", *International Journal of Development and Sustainability*, 2(3), 1758-1769.

Ray, B., Garain, A. and Sarkar, R. (2021): "An ensemble-based hotel recommender system using sentiment analysis and aspect categorization of hotel reviews", *Applied Soft Computing Journal*, 98, 106935

Rouliez, P., Tojib, D., & Tsarenko,Y. (2019).The influence of online review exposure on reviewers' intensity level of negative word of mouth. *Journal of Hospitality & Tourism Research*, *43*(5), 712-733.

Ryan, C. (2002)."Tourism and cultural proximity: Examples from New Zealand", *Annals of Tourism Research*, 29(4), 952–971.

872 Saayman, A., Figini, P., & Cassella, S. (2016). The influence of formal trade agreements and
873 informal economic cooperation on international tourism flows. *Tourism Economics*, 22(6),
874 1274-1300.

875 Saayman, A., Figini, P., & Cassella, S. (2016). The influence of formal trade agreements and
876 informal economic cooperation on international tourism flows. *Tourism Economics*, *22*(6),
877 1274-1300.

878 Sharma, P., Tam,J.L. and Kim, N. (2009), "Demystifying intercultural service encounters: toward
879 a comprehensive conceptual framework", *Journal of Service Research*, 12 (2), 227-242.

880 Sharma, P., Tam,J.L. and Kim, N. (2015), "Service role and outcome as moderators in intercultural
881 service encounters", *Journal of Service Management*, 26 (1), 137-155.

882 Sherif, M., & Hovland,C. I. (1961).Social judgements: Assimilation and contrast effects in
883 communication and attitude change, New Haven, Yale University Press.

884 Sizoo, S., Plank, R., Iskat,W. and Serrie,H. (2005), "The effect of intercultural sensitivity on
885 employee performance in cross-cultural service encounters", *Journal of Services Marketing*,
886 19 (4), 245-255.

887 Soulard, J., McGehee, N., & Knollenberg,W. (2020).Developing and Testing the Transformative
888 Travel Experience Scale (TTES).*Journal of Travel Research*, 0047287520919511.

889 Spielmann, N., & Delvert, M. (2014).Adapted or standardized copy: Is non-cultural English the
890 answer?. *Journal of Business Research*, *67*(4), 434-440.

891 Stappen, L., Baird, A., Cambria, E., & Schuller, B. W. (2021). Sentiment analysis and topic
892 recognition in video transcriptions. *IEEE Intelligent Systems*, *36*(2), 88-95.

893 Tanford, S., Choi, C., & Joe, S. J. (2019). The influence of pricing strategies on willingness to pay
894 for accommodations: Anchoring, framing, and metric compatibility. *Journal of Travel*
895 *Research*, *58*(6), 932-944.

896 Tenzer, H., Terjesen, S., & Harzing,A.W. (2017)."Language in international business: A review
897 and agenda for future research". *Management International Review*, 57(6), 815–854.

898 Torras, M.C. and Gafaranga, J. (2002), "Social identities and language alternation in non-formal
899 institutional bilingual talk: trilingual service encounters in Barcelona", *Language in Society*,
900 31 (4), 527-548.

901 Touchstone, E.E., Koslow, S., Shamdasani,P.N., and D'Alessandro, S. (2017)."The linguistic
902 servicescape: Speaking their language may not be enough". *Journal of Business Research*,
903 72, 147-157.

904 Traiger, C. (2008).*Tourists' English expectations: Discourse analysis of attitudes toward*
905 *language and culture on travel websites*. Unpublished PhD Thesis, University of Arizona.

906 Tu, H., Guo, W., Xiao, X., & Yan, M. (2020). The relationship between tour guide humor and
907 tourists' behavior intention: A cross-level analysis. *Journal of Travel Research*, *59*(8), 1478-
908 1492.

Tuna, M. (2006).“Cultural approximation and tourist satisfaction”. In M. Kozak and L. Andreu (Eds.), *Progress in Tourism Marketing*, 207-217. Amsterdam: Elsevier.

Valdivia, A., Luzón, M. V., Cambria, E., & Herrera, F. (2018). Consensus vote models for detecting and filtering neutrality in sentiment analysis. Information Fusion, 44, 126-135.

Van Vaerenbergh, Y. and Holmqvist, J. (2014), “Examining the relationship between language divergence and word-of-mouth intentions”, *Journal of Business Research*, 67 (8), 1601-1608.

Van Vaerenbergh,Y., and Holmqvist, J. (2013).“Speak my language if you want my money: Service language’ s influence on consumer tipping behavior*”. European Journal of Marketing*, 47(8), 1276-1292.

Vrontis, D.; Leonidou, E.; Christofi, M.; Kaufmann Hans, R.; Kitchen, P.J. (2020): “Intercultural service encounters: a systematic review and a conceptual framework on trust development”, EuroMed Journal of Business, 16(3), 306-323.

Wang, C.-Y.; Miao, L. and Mattila, A. S. (2015). “Customer responses to intercultural communication accommodation strategies in hospitality service encounters”, *International Journal of Hospitality Management*, 51, 96-104

Xu, F.Z., & Wang, Y. (2020). Enhancing employee innovation through customer engagement: The role of customer interactivity, employee affect, and motivations. *Journal of Hospitality & Tourism Research*, *44*(2), 351-376.

Xu,X. (2019).Examining the relevance of online customer textual reviews on hotels’ product and service attributes. *Journal of Hospitality & Tourism Research*, *43*(1), 141-163.

Yang, I.C.M., French,J.A., Lee,C., & Watabe,M. (2020).The symbolism of international tourism in national identity. *Annals of Tourism Research*, *83*, 102966.

Zeithaml, V.A., Berry,L.L. and Parasuraman, A. (1996).‘‘The Behavioral Consequences of Service Quality”, *Journal of Marketing*, 60 (2), 31-46.

Zhang, C., Laroche,M., and Richard,M.O. (2017).The differential roles of verbs, nouns, and adjectives in English and Chinese messages among bilingual consumers. *Journal of Business Research*, 72, 127–135.

Zhang, X., Qiao, S., Yang, Y., & Zhang, Z. (2020). Exploring the impact of personalized management responses on tourists’ satisfaction: A topic matching perspective. Tourism Management, 76, 103953.

Zhang, Z., Zhang, Z., & Yang, Y. (2016).The power of expert identity: How website recognized expert reviews influence travelers’ online rating behavior. *Tourism Management*, 55, 15–24.

Zolfagharian, M., Hasan, F. and Iyer, P. (2017), “Employee, branch, and Brand switching: The role of linguistic choice, use, and adaptation”, *Journal of Services Marketing*, 31 Nos 4/5, 452-470.

945 Zolfagharian, M., Hasan, F. and Iyer, P. (2018), "Customer response to service encounter
946 linguistics", *Journal of Services Marketing*, 32 (5), 530-546.