# Gastronomic experiences of foreign tourists in developing countries. The case in the city of Oruro (Bolivia)

Francisco González Santa Cruz [a,*], Juan Choque Tito [b], Jesús Claudio Pérez-Gálvez [c], Miguel Jesús Medina-Viruel [d]

[a] *Agrifood Campus of International Excellence, ceia3, Faculty of Law and Business Administration, St. Puerta Nueva, s/n. E-14071, Córdoba, Spain*
[b] *Technical University of Oruro, Faculty of Economic, Financial and Administrative Sciences, Department of Basic Sciences, St. Cochabamba (between October 6 and Cochabamba), Oruro, Bolivia*
[c] *Department of Applied Economics, Agrifood Campus of International Excellence, ceiA3, Faculty of Law and Business Administration, University of Córdoba, Spain*
[d] *Department of Applied Economics, Agrifood Campus of International Excellence, ceiA3, Faculty of Labour Sciences, University of Córdoba, Spain*

## ARTICLE INFO

## ABSTRACT

Gastronomy allows tourists to discover the cultural roots of the destination, thus being one of the motivations for its choice and even becoming a fundamental factor in the analysis of the overall satisfaction of the tourist experience. This research is focused on the analysis of the gastronomic experiences of foreign tourists who visit the city of Oruro (Bolivia). The main results of this research show a segmentation of travellers on the basis of their perceptions regarding the gastronomic experiences in this city into three different groups (survivors, enjoyers, and experiencers). Additionally, the study concludes that these gastronomic experiences are highly related to the motivations that the travellers have to discover a specific destination, and that their level of satisfaction with these experiences is highly connected to the relationship that gastronomy has with the cultural heritage of the local community.

## 1. Introduction

Gastronomy nowadays has become a fundamental instrument for the tourism development in a destination (Nicoletti et al., 2019). The recent literature on food tourism highlights the importance of an adequate and optimal management of gastronomic tourism as the engine of the tourism sector (Omar et al., 2019), also it has proven the importance of empiric research that give practical answers to this industry (Baum, 2019).

The gastronomic experiences that travellers have in a destination is a key element in the determination of their level of satisfaction when they travel. In this article, we analyse different variables that connect gastronomy with the segmentation of foreign travellers, with the motivation to discover a destination and with the level of satisfaction of foreign tourists. Specifically, it is done in the city of Oruro, in the Plurinational State of Bolivia, a city which has an important cultural heritage, with the Carnival of Oruro having been registered by UNESCO as an Intangible Cultural Heritage. According to Bertella (2011) gastronomic tourism is a type of tourism in which the quest for new experiences is related to local cuisine, and therefore with the culture of the destination. Hence local cuisine becomes a primary or secundary motivation (Su,

2013) to visit the place. This way, gastronomic tourism merges the knowledge of cuisine of the place and the quest for new culinary experiences in a specific destination (Ellis et al., 2018).

The importance that gastronomy has in a destination can be studied from an exclusively physiological point of view, that is to say, as the primary need to feed oneself that travellers have. It is also a way to understand, through gastronomy, the cultural roots of the destination, in which case it is necessary to segment the tourists by type with the aim of discovering their perceptions and motivations beyond the primary need for food (Hjalager, 2004; Pesonen et al., 2011). In this way, gastronomy becomes a motivation to move about, changing from a purely secondary and peripheral consideration of the trip to a main motivation in searching for a gastronomic experience as an essential and determining variable in the choice of the destination (Basil and Basil, 2009; López-Guzmán et al., 2017b).

As a result, the behaviour of specific tourists with respect to the gastronomy of a place allows for the traveller to gain deeper knowledge of the place they visit, its customs, its history, or its social relationships. Likewise, it provides the visitor with a unique perception, through active learning and participation in the destination, of the culinary traditions

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and also suggests, on many occasions, an important contribution to the local economy, particularly in developing countries (Mgonje et al., 2017). All this, in addition, allows for avoiding the depopulation of destination surroundings when they are rural and enables the sustainability of the geographic area through this type of tourist (Quezada-Sarmiento et al., 2018). In this way, specific scientific research that analyses the relationship between gastronomy and tourism forms a basis for analysis in relation to three different ideas: from the consumer's view, from the producer's view, and from the developing area of a destination (Anderson et al., 2017). Also, there is a very important relationship between tourism and gastronomy with respect to trips that chefs themselves go on with the aim of learning new culinary techniques and discovering other products that they may later transfer to their restaurants, thus increasing their degree of innovation (Baldwin, 2017).

Oruro is the most important city of the province of Cercado, which, at the same time, is part of the Oruro Department (Bolivia's territory is divided into nine departments). Said department is located west of the country being itself the border with the country of Chile (Fig. 1). The city

spreads for 1,633 km$^2$ and has a population close to 265,000 inhabitants according to the last official census in 2012 (these countries carry out erratic census studies that make it difficult to find an updated figure). As a part of the Oruro department, its economy relies on mining ores but in the past years the mining activity has been reduced in favour of the building sector, manufacturing and tourism.

The gastronomy of Bolivia, mainly known for its variety of dishes, has deep indigenous and Spanish roots which have been transformed and updated through miscegenation and the passing of time. The city of Oruro, in particular, highlights the Bolivian culinary culture with typical dishes such as thimpu or chaquecan, whose origins can be traced back to pre-colonial times. Together with this formal aspect it is also very important in the city of Oruro the "street food". In fact, an array of authors (Torres Chavarria and Phakdee-Auksorn, 2017; Hiamey and Hiamey, 2018) highlight the relevance this gastronomic experience has for tourists. Street food is even a heavy economic activity in some developing countries (Ukenna and Ayodele, 2019).

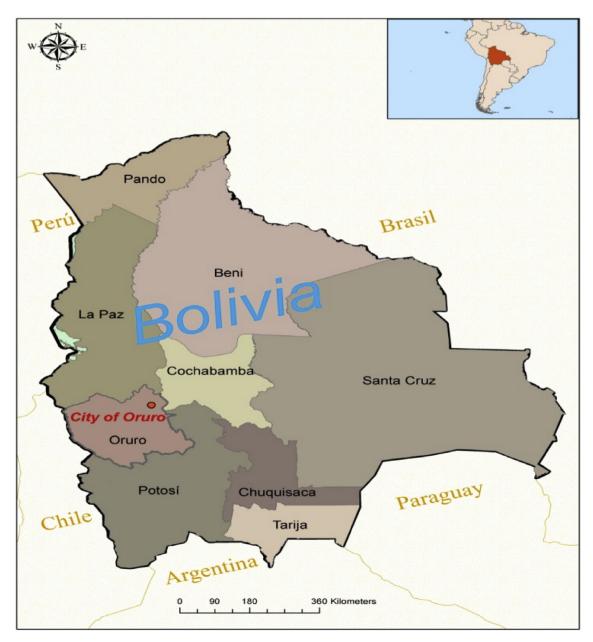The fundamental aim of this article is to complete a segmentation of



**Fig. 1.** Map of Bolivia. Source: own elaboration with the software ArcGIS from data obtained from Geobolivia. Database available at http://geo.gob.bo/portal/.

the foreign tourists who visit the city of Oruro based on their interest in local gastronomy, displaying their motivations and their satisfaction. This segmentation has as specific target to identify homogeneous groups of tourists that approach to enjoy the rich cuisine from Oruro, allowing the businesses to set specific polices to satisfy the different types of visitors they might have. To work towards this objective we used together two models of recent and wide use for this type of segmentation. These are the Björk y Kauppinen-Räisänen model (2016) and the model of Kim et al. (2013). In addition, this article presents research in a Latin American city, on a continent which in recent years has greatly developed its gastronomy and which is trying to use the richness of its gastronomy as a means to develop and consolidate tourism, something that already occurs elsewhere, such as Asia (Baldwin, 2017).

## 2. Background

### 2.1. Gastronomy and segmentation

The academic literature has provided different approaches for the segmentation of consumers. One of the most common techniques in the research of tourism is factor-cluster analysis (Park and Yoon, 2009; Prayag, 2010). However, this approach has been criticised for various shortcomings such as the loss of original information, abstract understanding, and erroneous suppositions (Dolnicar, 2008; Dolnicar et al., 2012; Prayag and Hosany, 2014). In this research, we use the segmentation approach recommended by Dolnicar (2008), which involves the direct grouping of original scores. The use of original scores provides a more precise and detailed segmentation due to its ability to retain a large degree of the original details (Sheppard, 1996; Dolnicar, 2002; Prayag and Hosany, 2014).

It is also recommended by the academic literature the use of a hierarchical clustering method, followed by a non-hierarchical method (Hair et al., 2010). So two hierarchical algorithms were applied in this research: the complete link and Ward's method. Using squared Euclidian distances to identify possible data clustering in this research. Both techniques are seen in the scientific literature which addresses the segmentation of tourist demand (Dolnicar, 2002). The goal of these methods is to identify groups of tourists who are very similar in terms of their interest in local gastronomy in a specific tourist destination.

The segmentation of travellers in general and of visitors interested in the gastronomy of a destination in particular allows for local businesses to adapt their offers to the needs of each one of the groups of tourists. As such, the greatest satisfaction for tourists interested in the culinary dishes of the place may be reached if they manage to have their wishes satisfied by the local gastronomy. Kivela and Crotts (2005) indicate that there are three ideas which connect gastronomy with tourism. The first idea refers to the relationship that there is between tourism and gastronomy, that is to say, which motivation, main or secondary, local food represents for the tourist who visits a place. The second idea is based on the analysis of the search, on the part of the tourist, for the culinary heritage of a place. The third idea is based on the study of the economic impact that gastronomy has on a destination.

Scientific research focused on the segmentation of tourists based on gastronomy is grouped into three different fields: tourist destinations (Kivela and Crotts, 2005; McKercher et al., 2008), food festivals (Kim et al., 2015; López-Guzmán et al., 2017b), and food markets (Crespi-Vallbona and Dimitrovski, 2016).

One of the first studies to focus on wine (and gastronomy) as a key element in the segmentation of tourists was that conducted by Charters and Ali-Knight (2002). These authors contributed substantially to the literature due to the fact that, besides the traditional dimensions related with the motivation to travel, they included analysis of the synergies which wine (and gastronomy) may create within the destination. As a result, four different groups of tourists are obtained: wine lover, connoisseur, wine interested and wine novice.

Hall et al. (2003) presented a segmentation model of gastronomic

tourism on the basis of specific tools that showed the importance of gastronomy and/or wine in the visited places. This study served as the basis for the segmentation of gastronomic tourism developed by Hjalager (2004), specifying four groups of gastronomy tourists: recreational, existential, diversionary, and experimental. In this vein, other research has highlighted the importance of the motivation of tourists to discover and enjoy the local gastronomy. Thus, the specification of the gastronomic motivation as a basic core in the intention of visiting a destination also makes this tourist type a more demanding visitor in terms of the quality and originality of culinary techniques (Fields, 2002; Hall et al., 2003).

This research is based on the gastronomy tourist segmentation proposed by Björk and Kauppinen-Räisänen (2016). These authors segmented tourists on the basis of three questions: How important are food and eating as motives for travelling? How important are food and eating experiences when choosing a destination? How important are food and eating for travel satisfaction? Understanding of the results leads to segmentation of travellers into three groups: experiencers, who travel to gain food experiences; enjoyers, who have a positive attitude towards food; and survivors, who have very little or no interest in food. This methodology has been applied in different countries such as Finland (Björk and Kauppinen-Räisänen, 2016), Perú (Pérez-Gálvez et al., 2017a, b) and Ecuador (López-Guzmán et al., 2017a; Pérez-Gálvez et al., 2017a, b).

In agreement with the literature review, the hypothesis to verify this shall be the following:

**H1.** Tourists show different attitudes towards gastronomy as a determining variable in the choice of destination.

### 2.2. Gastronomy and motivations

The quest for new experiences related to cuisine in specific destinations has been analysed by a number of researchers (Bertella, 2011; Lee et al., 2014; Su, 2013) who conclude that gastronomy has become a relevant pull factor for the tourist.

Hence, the motivation to discover the gastronomy of a destination may range from being purely physiological to being the main factor in the choice. Thus, in the first case, this motivational type only considers local food as a way of fulfilling the same needs that they would have in their place of origin and, as such, their contact with the gastronomy of the destination does not signify anything special (López-Guzmán et al., 2017a; Kumar, 2019). This implies that the local gastronomy of a destination does not lead to the traveller spending time and money on it as, in most cases, the traveller consumes the same products and, if possible, in the same restaurant chains typical for the place of residence. However, this means of gastronomy assessment should also be present in the research done in this field. Fields (2002) analysed this type of contact with gastronomy in a destination as the first of four types of gastronomic motivations (fulfilling a physiological need for food). The other three types are the following: culture (desire to better discover a destination and its heritage); interpersonal (in response to the social needs for interaction with other people); and status and prestige (which seek recognition and social differentiation) (Fields, 2002).

On their part, Quan and Wang (2004) placed the motivations that tourists have towards gastronomy in two groups: main and secondary. Main motivations would be when a tourist chooses a destination with the clear aim of trying the specialities of the local cuisine. Secondary trip motivations are focused on reasons other than gastronomy, although gastronomy is also a strong component when making the decision whether to visit a destination. In this sense, Babolian Hendijani (2016) discussed the importance of these gastronomic motivations when travellers decide to visit a specific destination. In addition, Mgonje et al. (2017) included in his research the relationships that exist between this motivation and the consumption of local foods.

A further approach is that gastronomy is part of the tourist's

experience in a destination. Anderson et al. (2017) divided these gastronomic experiences into three groups: sensory, cultural, and social. Crespi-Vallbona and Dimitrovski (2016), on their part, reinforced this line of research by also grouping gastronomic motivations of the visitors to a destination into three dimensions: sensory appeal, local food experience, and health concerns. López-Guzmán et al. (2017a,b) studied the relationships among tourists, their motivations, and their experiences through a study of a gastronomic festival, where, once again, it was clearly seen that there was a differentiation of motivations, by considering three factors: new food experiences, culture, and socialisation.

The interests and motives of foreign tourists surveyed were reflected in one of the points in the questionnaire. This question included different items concerning the main motivations which, in accordance with the literature (Kim et al., 2013; Björk and Kauppinen-Räisänen, 2016; Björk and Kauppinen-Räisänen, 2017; López-Guzmán et al., 2017b; Pérez-Gálvez et al., 2017a,b), tourists have for consuming local gastronomic products. A pre-test was completed which selected 18 items on a 5-point Likert scale (1 = little; 5 = very much) to specify the relative importance of a series of motives in their decision to consume local foodstuffs. The items were grouped, following the model of Kim et al. (2013), in five different gastronomic dimensions: cultural experience, excitement, interpersonal relationship, sensory appeal, and health concern.

In accordance with the scientific literature review, the hypothesis to confirm shall be the following:

**H2**. : Culinary motivations are heterogeneous and come conditioned by the attitudes that tourists have with respect to the place of gastronomy in their trips.

### 2.3. Gastronomy and satisfaction

Currently, tourism involves figures in the millions in an activity that is becoming increasingly more demanding and competitive, which looks for the natural and the real as opposed to the artificial and the standard. In this respect, the management of a tourist destination should go beyond the simple offer of natural, cultural, artistic, and leisure resources, as, for the best satisfaction of the tourist in a destination, the tourist offer should respond to the experience that a visitor desires (Cracolici et al., 2008; Agyeiwaah et al., 2019). The study of the relationship of satisfaction with the gastronomy is fundamental, given its double cognitive-affective component, with the loyalty of a tourist towards a destination being its main consequence. As such, from this point of view, local gastronomy is, therefore, an essential tool for the development of a unique and unforgettable experience (Haven-Tang and Jones, 2005).

In this sense, Babolian Hendijani (2016) resolved that the satisfaction that a tourist may have with local gastronomy depends on the cultural richness that gives birth to this gastronomy, as well as the use of natural and healthy products in the culinary processes. In the same way, satisfaction would also be related to taste (Crespi-Vallbona and Dimitrovski, 2016), which makes it into something unique and different to the gastronomic experiences of the place of origin of a tourist. In this way, dining experiences become a key element in this satisfaction (Babolian Hendijani, 2016).

To conclude, gastronomy can be a fundamental factor in tourist satisfaction in relation to a destination visited (Björk and Kauppinen-Räisänen, 2016; López-Guzmán et al., 2017b), connecting the concepts of motivation, experience, and satisfaction.

In accordance with the literature review, the research hypotheses are the following:

**H3**. : Gastronomy is a factor which contributes and conditions the tourist's experience and satisfaction.

**H4**. : Local gastronomy is a tool which conditions the tourist experience.

## 3. Materials and methods

### 3.1. Survey design

The methodology used for this research was based on conducting fieldwork on a sample of foreign tourists who visited the city of Oruro with the aim of discovering their opinion in relation to the typical gastronomy of the city. The fieldwork, based on answers to a questionnaire, was completed in different culinary establishments in the historic centre of the city, and with the premise that the tourists surveyed had spent a specific amount of time in the destination and, as such, could give an opinion based on the gastronomy (Correia et al., 2013; Remoaldo et al., 2014). The survey was based on different previous studies (Kim et al., 2009; Björk and Kauppinen-Räisänen, 2016; López-Guzmán et al., 2017a; Pérez-Gálvez et al., 2017a,b) and addressed diverse questions related to tourism and gastronomy.

As we pointed out before, in order to segment the tourists, two different models were used; the first one is the model proposed by Björk and Kauppinen-Räisänen (2016). So on this first model we proposed three questions (Table 1): (1) how important are food and eating as motives for travelling; (2) how important are food and eating experiences when choosing a destination; (3) how important are food and eating for travel satisfaction. The second model used is the one by Kim et al. (2013) which groups the motivational dimensions in five clusters (Table 2): cultural experience, excitement, interpersonal relationship, sensory appeal and health concern. Both models were objects to adaptation to the specific circumstances seen in gastronomic tourism in developing countries and, precisely, in Latin America, following the inputs done by previous related research (López-Guzmán et al., 2017b; Pérez-Gálvez et al., 2017a,b).

Aside from an initial combination of items, the survey followed a three-phase filtering process: first, a local researcher specialising in tourism analysed the proposed items; secondly, the resulting questionnaire was reviewed by various people responsible for tourist activity in the city; thirdly, a pre-test was carried out by giving it to 20 foreign tourists.

In the questionnaire, questions which address different matters relating gastronomy to tourism were used. Among the matters which stood out were the interest of those surveyed in gastronomy, the importance of gastronomy when travelling, and the motivations which contribute to the experience of a tourist in relation to local gastronomy or the level of satisfaction with it. The survey used questions with yes/no answers, questions with open and closed answers, and questions using a 5-point Likert scale (1 = not important; 5 = very important).

**Table 1**
Characterisation clusters from gastronomy attitude.

| Gastronomy attitude | Food clusters | | | H-Kruskal Wallis | |
|---|---|---|---|---|---|
| | Survivors | Enjoyers | Experiencers | $\chi^2$ | Sig. |
| How would you rate your knowledge on gastronomy? | **1.52**[*] | **3.53**[*] | **4.77**[*] | 227.909 | <0.000 |
| How would you rate your interest in gastronomy? | **1.39**[*] | **3.35**[*] | **4.74**[*] | 261.359 | <0.000 |
| How much has Lima's gastronomy influenced your visit to the city? | **1.43**[*] | **3.58**[*] | **4.83**[*] | 254.592 | <0.000 |

Source: Own elaboration.
(*) The values in bold type present significant differences in two of three of the means clusters. To test for the significant differences between the different means the Mann-Whitney U test was applied.

**Table 2**
Food motivational dimensions.

| Food motivational dimensions | | | Mean | Ranking |
|---|---|---|---|---|
| Excitement | Cronbach's alpha (0.824) | It is different from what I eat every day. | 3.91 | 3 |
| | Mean (3.89) | It excites me to taste local food in its place of origin. | 3.87 | 7 |
| Sensory Appeal | Cronbach's alpha (0.881) | Local gastronomy tastes good. | 3.93 | 1 |
| | Mean (3.81) | The taste of the dish is different from the one prepared in my region. | 3.92 | 2 |
| | | Local gastronomy looks nice. | 3.80 | 10 |
| | | Local gastronomy smells nice. | 3.58 | 16 |
| Cultural Experience | Cronbach's alpha (0.909) | An authentic experience. | 3.90 | 5 |
| | Mean (3.80) | Discover something new. | 3.88 | 6 |
| | | Increase my knowledge about different cultures. | 3.87 | 8 |
| | | Discover the taste of local food. | 3.71 | 13 |
| | | It offers a unique opportunity to understand local culture. | 3.65 | 14 |
| Interpersonal Relationship | Cronbach's alpha (0.907) Mean (3.80) | Enjoy pleasant moments with family and/or friends. | 3.90 | 4 |
| | | Give advice about gastronomical experiences to other travellers. | 3.80 | 9 |
| | | Tasting local food increases family and friendship bonds. | 3.77 | 11 |
| | | Being able to transmit my experiences with local food. | 3.72 | 12 |
| Health Concern | Cronbach's alpha (0.890) Mean (3.56) | Local dishes contain a great quantity of fresh produce sourced locally. | 3.64 | 15 |
| | | Local dishes are nourishing. | 3.55 | 17 |
| | | Local gastronomy is healthy. | 3.49 | 18 |

Source: Own elaboration.

### 3.2. Data collection

The surveys were completed by a team of surveyors connected to the Technical University of Oruro. The number of field workers chosen in this case were six people who were instructed and lectured on how to do the surveys properly. The questionnaires were handed out in two languages (Spanish and English), and each participant chose his or her preferred language.

A total of 403 surveys, of which 370 were valid, were collected between the 3rd and the 13th of February 2018 (coinciding with the celebration of the Carnival of Oruro—an Intangible Cultural Heritage). The questionnaires were completed in diverse culinary establishments of the tourist area of the city of Oruro, on different days and at different times, in an attempt to collect the widest possible range of people and situations. The selection of places where the field work was developed was done thinking on prioritising the establishments that represent the traditional cuisine, based on ancient recipes that use lamb, beef or llama meat.

A non-probability sampling technique was used, which is common in this type of research, where the researchers are available at a specific space and time (Finn et al., 2000). The survey was not stratified by sex, age, education, nationality, or any other variable, as no previous studies have used this stratification. The rejection rate of the questionnaire was low and insignificant in terms of any variable. The length of the survey was no more than 10 minutes.

### 3.3. Sample and sampling error

The specific scope of this research was focused on foreign tourists who visit the city of Oruro, regardless of whether they stay overnight or visit other places in the Cercado province, where the city of Oruro is located. In terms of the number of tourists who visit the city, there is no data due to the absence of official statistics regarding tourist activity in Oruro. The only information available is provided by the National Statistics Institute of Bolivia, which indicates that the number of foreign visitors who stayed in the hotel establishments of Oruro during the year 2016 increased to 20,483 people. Using this number as a guideline, in the case of there being a random sample, the sampling error for a level of certainty of 95% would be ±5.05%.

### 3.4. Data analysis

The tabulation and statistical analysis of the data were completed using SPSS v. 22. Statistics were applied to evaluate the trustworthiness and validity of the answers to the questionnaire (Cronbach's alpha). A multi-variant technique for grouping cases (K-means clustering) was applied, with the aim of analysing the existing similarities or resemblances among the survey participants by using the indicative variables as references to greater or lesser interest in gastronomy as a variable interest when travelling. Additionally, the discriminating analysis technique was used to confirm the grouping of cases obtained in the clustering analysis. From the groups or segments obtained, association statistical methods and means were applied, which provide the necessary information to study the possible guidelines of existing associations among the different variables through a table of bi-dimensional contingencies. On the other hand, non-parametric statistics (Kruskal-Wallis's H (1952) and Mann-Whitney's U (1947)) were used with the aim of analysing the significant differences among the sample groups. Kruskal-Wallis's H statistic method/system confirms that compared means are not the same among the different clusters, however this does not allow us to specify where the differences are detected Due to that and to discover which mean differs from the other, we turn to the Mann-Whitney U statistic method/system.

## 4. Results

### 4.1. Gastronomic clusters

Gastronomy is one of the main motivations for travelling. Thus, and with the aim of analysing and characterising the interest in gastronomy of foreign tourists who visited the city of Oruro, the surveys evaluated the importance that gastronomy has in planning trips through the three different items which appear listed in Table 1. The Cronbach's alpha coefficient of the final scale of these three items reaches a value of 0.885, indicative of worthy internal consistency among the elements of the scale. The critical level (p) of the analysis, associated with Friedman's $\chi^2$ statistic (8.875) and which looks to confirm the null hypothesis that all the elements of the scale have the same median, is less than 0.05. As such, the hypothesis that the medians of the elements are the same is rejected.

An analysis of the resulting agglomerative chronograms and the dendrograms of the hierarchical clustering method suggested three or four clusters. Afterwards, a more thorough examination of the group assigning and the size of the group, and its later analysis using the K-means non-hierarchical clustering algorithm, confirmed that the most accurate solution was that of three clusters.

Following the model of Björk and Kauppinen-Räisänen, each of these three clusters was named: survivors, enjoyers, and experiences. In accordance with Table 1, the first of the segments is integrated by 12.4% of the foreign tourists surveyed, being the group that registers significant lows in the three items. This cluster is known as survivors and corresponds with a group of tourists characterised by a low interest in gastronomy. The second group represents 43.5% of the sample and is

characterised by registering intermediate points in the three items. This cluster, which groups tourists with a certain interest in gastronomy, is known as enjoyers. The third group is characterised by registering high points in the three items and represents 44.1% of those surveyed. This cluster, which groups tourists with a great interest in gastronomy, is known as experiencers.

In accordance with previous scientific research, the results allow for the confirmation of one of the suggested working hypotheses: tourists show different attitudes to gastronomy as an interest variable in the choice of destination ($H_1$).

### 4.2. Motivation and gastronomy

A second aim of this research is to evaluate the motive or the reasons for visitors in the city of Oruro to taste the local gastronomy. Table 2 collects the different interests and/or motives of those surveyed to consume local gastronomic products. The Cronbach's alpha coefficient of the final scale reaches a value of 0.967, indicating a heightened internal consistency among the elements of the scale. In addition, the critical level (p) associated with Friedman's $\chi^2$ statistic (185.173) is less than 0.001, which allows for maintaining the hypothesis that the averages of the elements are not the same.

The ranking produced does not allow for the identification of which of the five dimensions is the most relevant. Of those interviewed, 42% considered "local gastronomy tastes good" as one of the main reasons for tasting the local gastronomy. The following were also stated as being important main motives for 38% of those surveyed: "the taste of the dish is different from the one prepared in my region", "it is different from what I eat every day", and "[I] enjoy pleasant moments with family and/ or friends". The dimension that had the least relevance was health concerns; "local dishes are nourishing" and "local gastronomy is healthy" were the least important reasons for tourists to consume local products.

The analysis by gastronomic clusters allows for the confirmation of statistically significant differences in each one of the motivational gastronomic dimensions (Table 3). With the aim of establishing these comparisons, the Kruskal-Wallis H statistic is used again. Thus, the foreign tourists included in the "experiencers" segment are characterised by registering the highest values in each of the five motivational dimensions, being significantly greater in relation to other clusters in the "cultural experience" and "interpersonal relationship" dimensions. The "survivors" segment is characterised by registering the lowest values in each of the dimensions, showing significant differences with the other two analysed groups. The results show that the culinary motivations of tourists are heterogeneous and come conditioned by their attitude and/ or interest in gastronomy in their trips (H2). In conclusion, travellers use gastronomy as a means of searching for new experiences, discovering more about the culture of a tourist destination, or satisfying interpersonal needs with friends and/or relatives.

### 4.3. Gastronomy and satisfaction

In this research the average level of satisfaction stated by foreign tourists surveyed in the city of Oruro was 3.61 points, measured on a 5-point Likert scale. Another result is that only a small percentage of tourists declared being fully satisfied, as only 14.6% indicated 5 points as their level of satisfaction. In this group of fully satisfied tourists, the largest segment (25%) comprises experiencers (25%). Similarly, and with reference to the satisfaction, only 10.5% of the tourists registered 2 points or less.

Through the segmentation, it is necessary to analyse the possible existing relationships (Table 4). The analysis reveals a very positive evaluation of the gastronomic experience by the three groups of visitors, being significantly different depending on greater or lesser relationship to the motivations for local product consumption. The assessment is greater among the experiencers segment and shows evidence for how greater relevance in the five motivational dimensions can be transferred to greater levels of satisfaction with local gastronomy. These results show that gastronomy is a factor which contributes and conditions the tourist experience and satisfaction ($H_3$).

Following the verification that visitors were happy with the cuisine of Oruro, this aspect was analysed in further depth as to relationships, reasons, and motives to taste the local gastronomy, as this is fundamental for good tourist management and planning. Thus, each of the five dimensions can be discriminated significantly in relation to the degree of perceived gastronomic satisfaction (Table 5). The Spearman's correlation corroborates the agreement between the degree of satisfaction and the five motivational dimensions. From the data we see that a greater presence of the reasons related with "sensorial appeal", "cultural experience", and "health concern" contributes to a greater extent to the perceived satisfaction in relation to the local gastronomy.

This result has a clear implication for the management of tourist businesses and for the public administration of the city. Thus, the initiatives intended to increase visitor satisfaction with the local gastronomy should come from an analysis of the reasons which motivate their consumption, as well as influences in the presence and in the correct provision of service. One of the main contributions of this research is the verification that the local gastronomy is a tool that conditions the tourist experience ($H_4$). This study hence supports the previous results of how local gastronomy contributes to satisfaction and influences tourist behaviour.

## 5. Discussion

Currently it exists, on behalf of tourists, a growing interest towards the cuisine of the destination they are visiting, being this a part of their cultural heritage of the local community, turning this type of gastronomy in a key piece when it comes to the tourist attraction and the development of the sector (Nicoletti et al., 2019). This way, the importance of the gastronomy as a pull factor is rising. This research fathoms deeply in the analysis of the different types of tourists that arrive to the city of Oruro, answering the demand of scientific research for the improvement of the sector (Baum, 2019). These tourists are then segmented depending on the role the local cuisine has in their motives to travel to the destination and the relation of the local cuisine with the overall satisfaction of the trip.

**Table 3**
Characterisation of the clusters from the average of motivational dimensions.

| Food motivational dimensions | Food clusters | | | H-Kruskal Wallis | |
|---|---|---|---|---|---|
| | Survivors | Enjoyers | Experiencers | $\chi^2$ | Sig. |
| Excitement | **2.85**[(*)] | **3.73**[(*)] | **4.17**[(*)] | 71.152 | <.000 |
| Sensorial Appeal | **3.02**[(*)] | **3.61**[(*)] | **4.08**[(*)] | 71.855 | <.000 |
| Cultural Experience | **2.54**[(*)] | **3.69**[(*)] | **4.08**[(*)] | 90.141 | <.000 |
| Interpersonal Relationship | **2.89**[(*)] | **3.58**[(*)] | **4.11**[(*)] | 88.773 | <.000 |
| Health Concern | **2.65**[(*)] | **3.41**[(*)] | **3.82**[(*)] | 57.513 | <.000 |

(*) The values in bold type present significant differences in two of three of the means clusters. To test for the significant differences between the different means the Mann-Whitney U test was applied.
Source: Own elaboration.

**Table 4**
Characterisation cluster from the variable food satisfaction.

| Food clusters | | | H-Kruskal Wallis | |
|---|---|---|---|---|
| Survivors | Enjoyers | Experiencers | $\chi^2$ | Sig. |
| **2.81**[(*)] | **3.45**[(*)] | **3.87**[(*)] | 109.451 | <.000 |

(*) The values in bold type present significant differences in two of three of the means clusters. To test for the significant differences between the different means the Mann-Whitney U test was applied.
Source: Own elaboration.

**Table 5**
Analysis of food satisfaction and motivational dimensions.

| Food motivational dimensions | H-Kruskal Wallis | | Rho Spearman |
|---|---|---|---|
| | $\chi^2$ | Sig. | |
| Excitement | 103.242 | <.000 | 0.52[**] |
| Sensorial Appeal | 116.295 | <.000 | 0.59[**] |
| Cultural Experience | 116.080 | <.000 | 0.57[**] |
| Interpersonal Relationship | 117.317 | <.000 | 0.56[**] |
| Health Concern | 117.670 | <.000 | 0.57[**] |

(**)The correlation is significant at the 0.01 level (bilateral).
(*) The correlation is significant at the 0.05 level (bilateral).
Source: Own elaboration.

The segmentation of tourists in tourist destinations, based on opinions regarding gastronomy, has been analysed in previous research (Kivela and Crotts, 2005; McKercher et al., 2008; Thompson and Prideaux, 2009; Björk and Kauppinen-Räisänen, 2016). In these studies as in the present one, it was concluded that tourists show different attitudes towards gastronomy as a variable of interest in the choice of a destination. Some studies have found that in the segmentation of tourists, one group is very interested in gastronomy while another is not particularly interested. In this research, the group that is very interested in local gastronomy is called "experiencers," following the Björk and Kauppinen-Räisänen model (2016). Hjalager (2004) named this group as experimental gastronomy tourists, and McKercher et al. (2008) called them definite culinary tourists. On the opposite side, we have the group that is not very interested in local gastronomy; following Björk and Kauppinen-Räisänen (2016), we label them "survivors". Hjalager (2004) characterised one of the groups as recreational, while McKercher et al. (2008) labelled the group as non-culinary tourists and Thompson and Prideaux (2009) described them as not interested. Similar results were found by López-Guzmán et al. (2017a) and Pérez-Gálvez et al. (2017a,b).

The results of this research show that the culinary motivations of tourists are heterogeneous and are conditioned by their attitude and/or interest in gastronomy on their trips. Thus, following the model of Kim et al. (2013), these motivations have been grouped in five gastronomic dimensions: cultural experience, excitement, interpersonal relationship, sensory appeal, and health concern. The previous literature addressed the motivations in relation to a destination through several dimensions (Kim et al., 2009, 2013; Sims, 2010; Björk and Kauppinen-Räisänen, 2016). Anderson et al. (2017) analysed these motivations through the different experiences that can be obtained: sensory, cultural, and social. On his part, Babolian Hendijani (2016) indicated the following motivational dimensions: heritage, serving, food environment, variety, availability, sensory, and ingredients.

This research endorses the results of the previous literature (Björk and Kauppinen-Räisänen, 2016; López-Guzmán et al., 2017b) that local gastronomy contributes to increasing the degree of satisfaction of tourists and their experience. Haven-Tang and Jones (2005) indicated that tourist destinations should consider the importance of gastronomy as a tool to help travellers to have a unique experience. Babolian Hendijani (2016) indicated that the importance of gastronomy for the satisfaction of the tourist is based, in a certain way, on the cultural heritage of each place. For this reason, it is essential that research is done to bring the concepts of tourism, heritage, and gastronomy together in specific cities, like Oruro, for which the Carnival of Oruro is an Intangible Cultural Heritage.

## 6. Conclusions

Gastronomy has gone from being a peripheral matter and of minor importance in tourist management to now being one of the greater parts of the scope and consolidation of a destination. This research analyses the perception and the opinion that foreign tourists have of visiting the city of Oruro in relation to its gastronomy.

We conclude that foreign tourists show different attitudes towards local gastronomy, used as a segmentation variable, and we obtain three types of tourists: survivors, enjoyers, and experiencers. In turn, interest in local gastronomy also determines culinary motivations. Thus, and based on empirical evidence, the presence of five different dimensions is shown: cultural experience, excitement, interpersonal relationship, sensory appeal, and health concern. In relation to the satisfaction of foreign tourists surveyed regarding the gastronomy of Oruro, the results show that the dimensions of sensory appeal, cultural experience, and health concern contribute greatly to satisfaction with the gastronomy. Visitors indicate an important level of satisfaction with their culinary experience, with the assessment being significantly different depending on the declared interest in gastronomy as a motive for travelling. Similarly, greater interest in gastronomy results in significantly different perceptions in relation to the attributes of local cuisine, with traditional gastronomy, food prices, and quality being assessed to a greater extent.

The main practical application of this research is to contribute to understanding the characteristics of different groups of tourists and their assessment of the local gastronomy with the aim of developing tourist and cultural products that best satisfy their needs and, at the same time, are compatible with the sustainable management of a tourist destination that is expanding in the American continent. In addition, the knowledge that this study contributes with might be useful in order to design specific contents for some formation itineraries about tourism in the local environment. These new contents would allow new students to have a better comprehension of what foreign tourists expect from the city of Oruro.

The main limitation of the research done is found in the time lapse when it was developed, which is the month of February of 2018 and during the period of the Carnaval de Oruro. Thus, we consider that it would be useful to extend the research to the tourist demands of the city throughout the year. This way we could dilute the effect that seasonality could have over the results and their interpretation. Another restriction is that the research is only based on demand, which makes it difficult to transfer the results to other groups of stakeholders, such as the local community or tourist businesses. If all the collectives that take part would have been researched, the study would have a more global and efficient overview of the determining factors of Oruro's cuisine taking part in choosing Oruro as a destination and the satisfaction of tourists visiting the city. In the end, as a future line of research, we recommend reinforcing the research that addresses the importance of gastronomy from the point of view of offerings in the city of Oruro. We also recommend researching Oruro's Street food as a tourist attraction.

## Declarations

### Author contribution statement

F. Gonález Santa Cruz: Conceived and designed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

J. Choque Tito: Conceived and designed the experiments; Performed the experiments; Wrote the paper.

J.C. Pérez-Gálvez: Performed the experiments; Analyzed and interpreted the data; Wrote the paper.

M.J. Medina-Viruel: Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data: Wrote the paper.

### Competing interest statement

The authors declare no conflict of interest.

## Additional information

No additional information is available for this paper.

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