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Landscape Smells and Intangible Heritage: The Porto city

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Abstract: Protecting the urban landscape and heritage in historic cities has enormous value, as well as preserving local memories. Furthermore, it is a crucial tool in planning the territory and in the social and economic development of urban sites with a special focus on cultural heritage. In the context of cultural heritage, the smells related to the component of the visitor's experience plays a key role in marketing strategies and as a booster in the sector tourism. In this sense, the idea of the present work is to consider Portuguese and international students as vehicles of perception of historical sites in the process of monitoring and safeguarding the landscape of the Porto city, in particular the perception of city smells.

Keywords: smell, places, landscape, students, Porto

1. Background

The European landscape convention (2000) considers landscape as an area that is a result of the interaction between natural and cultural heritage, tangible, or intangible. Through times, landscape is always acquiring new forms and new components as the result of this interaction. As the changing of the landscape is a fact, it is important to protect the significant elements that confers meaning to places. This protection implies a reflection among the heritage values constructed from the human activity through times. The approach of conservation and preservation of urban landscape is the process for preservation of local memories. This is an important method to planners to avoid degradation or destruction of landscape (Loan et al, 2014, p. 214).

The heritage protection that could identify cultural elements existing nowadays is very important as an instrument to promote a territorial planning, with the main objective to avoid extinction of memories and to preserve the heritage elements that identify places and societies (Terkenli, 2001, p. 202). It is recognized that tangible and intangible heritage are the focus of experiences for both visitors and residents.

In this sense, it is important to highlight the significant heritage (tangible or intangible) of a territory as a context of living societies in a certain place. It is crucial to promote a methodology that can help to identify those significant elements to protect in particular the intangible ones. On the other hand, it became important to reflect about the landscape, to keep the thinking of the existent link created between the present and the past and to understand the promising experiences that visitors could have in different places. Finally, it is essential to understand the several landscape components that could be in dangerous and needed intervention resulting from the negative impact they may suffer by aggressions to which they are exposed.

For the residents, the perceptions of the urban landscape are very important in the way they live in the city and are one of the actors to the landscape monitoring (Freitas, Sousa and Ramazanova, 2020). The aesthetics and the beauty of landscape have a relation with the local community satisfaction (Florida, Mellander and Stolarick, 2011). In the same way, visitors have some perceptions about places and the quality of this ambience interferes with their feelings about places (Freitas, et al, 2018).

The Burra Charter (ICOMOS, 1999) defines heritage significance as aesthetic, historical, scientific, social, and spiritual values. As aesthetic value, ICOMOS (1999) considers a multisensory phenomenon related with human senses and perceptions of scale, form, color, textures, smells, sounds. In fact, places have sensorial components that characterize them as integrant and attached elements that are considered as heritage (O'Connor, 2011). In this sense, smells can be considered part of the intangible heritage, and other aspects of cultural heritage, such as, local practices, traditions, and language may affect the smell perceptions (Bembibre and Strlič, 2017).

In this way, colors, sounds and smells are important sensorial components of places that characterizes the place identity and give to places unique characteristics. Some of those sensorial perceptions are still historical,

others are new creations of the actual life, which means, the actual cultural activity of the living places. The list of Intangible heritage of UNESCO has a significant number of components that inspires the smells and the sounds like the Portuguese “chocalhos”, the Colombian-Venezuelan works songs, or the Turkish coffee.

Understanding the positive or negative impact for visitors and residents, the preservation of the city smells, and sounds could be a way of conserving sustainability in the city development (Jia et al, 2020) and a way of preserving heritage alive (ICCROM, 2003) or a possibility to improve the sensorial quality of places.

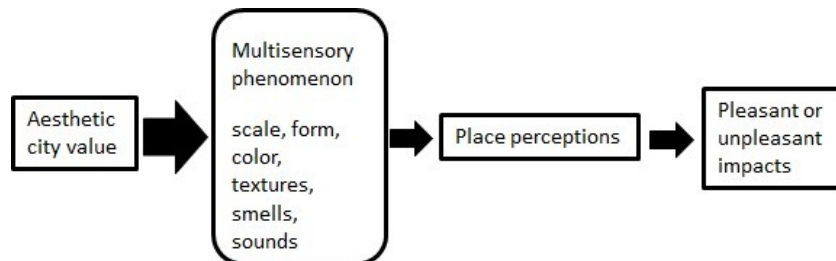


Figure 1: Multisensory phenomenon

The visit to a certain place is a multisensory experience: visual, taste, touch and hearing, the visual aesthetics, the flavors, the sounds, and other sensations are very important (Liu, et al. 2018). Smell is a very strong component of a place that evoke emotions and social meanings and strongly connect emotionally people with places (Xiao, 2020). It is believed that the individuals can be affected by their emotions and feelings, mood at the place, and their smell perceptions are constructions depending on their sense of the place. As pointed out by Bembibre and Strlič (2017) the olfactory experience of the visitors in the historic city could contribute to increasing understanding of the perceptions of the visitors to improve their overall enjoyment. Some authors consider the city smells, as heritage. As example we could point out the historic spices smells in the spices market, studied by Davis and Thys-Şenocak (2017) for Istanbul or Peralta (2019) for Lima, Peru, among others. The sensory history and the interpretation of the components of the city that reveals the emotional and sensorial experiences, permits to considered today characteristics smells and sounds has heritage (Davis and Thys-Şenocak, 2017), in the line of Burra Charter. As the city sounds, smells are part of the local identity (Bembibre and Strlič, 2017).

In this way, smells could be unintentionally or intentionally included in the city to promote areas to tourism as the smells that we could remember interferes in our space perceptions (Henshaw, 2016). As Xiao, Tait and Kang (2008) refer the everyday smells as coffee, fresh bread or spices smells enrich our lives as an invitation of the living invisible city.

Zardini and Schivelbusch (2005, p.276) have reinforced that smells are universal, present everywhere, real, invisible, produced by human activities, nature or simply the life existence like “aromas and spices, plants, flowers, animals and garbage overlay one another, forming landscapes of smell”. In any case, pleasant as a feeling is related to the personal preference, motivations, and physiological status of individuals (Zardini and Schivelbusch, 2005). The smellscape components such as the context of place, backgrounds of participants, the smell-environment, and the physical space can work at different levels, responding to different situations (Xiao et al., 2020) and could have different perceptions.

Considering all abovementioned studies, the objective of the present work is to try to understand, in classroom, the perceptions of residents and visitors about smells in the city of Porto. The recognition of the city as a cultural and heritage destination (Porto is the World Heritage classified by UNESCO in 1996) lead to a growing interest among international visitors and increased its image (Ramires et al, 2018) giving quality to the central touristic places, and the historical city center. Thus, International and Portuguese students of Portugalense University collaborated in the study, reveling their own perceptions. The study attempts to understand if the Porto city smells perceptions are different from residents’ students and International students (that have different experiences with the city) and to localize some pleasant and unpleasant areas of the city based on olfactory perceptions. One is the interior perspective; the other is an exterior experience. This exercise permits to understand if people remember smells and focus the olfactory perceptions from different places and if it could have negative or positive impacts in places. After the data collection, the group analyzed and debated the conclusions. The exercise leads us to understand the pleasant smells of Porto city

linked with the diversity of the sensorial experiences. For another point of view, this workout permits to understand the landscape components and reflect what the decisions makers could do to improve in a positive way the different sensorial elements of a city and its historical places.

2. Methodology

2.1 Data collection

Porto is a historical city, located in the northern Portugal. According to Lopes and Soares (2017) one of the important tourism products in Northern Portugal is heritage and landscape touring. Crossed by the Douro river, the Porto city has a beautiful landscape and cultural assets, which are attractive for both the local people and the visitors. Furthermore, the city has a rich cultural and historical heritage and famous for its Porto wine and gastronomy.

Historical places and monuments are one of the motivations to visit the city (Ramazanova and Freitas, 2020) During last decades Porto has attracted a great number of tourists and international residents, in particular young people that visit the city or came to study and to live. In this context, it is interesting to understand the perceptions young people have towards the famous and popular places in Porto. Therefore, the questionnaire was distributed among international and Portuguese students from September 2016 until April 2019, with the objective to examine the perceptions of the students towards the places in Porto and compare differences between Portuguese and international student's perceptions. So, the target population of the study corresponds to Portuguese and international students, staying and studying in Porto. A random sampling approach was used to select the individuals and conduct the survey questionnaire. The introduction part of the questionnaire includes the information related to sample profile, as age and gender, and country of residence of International students. The next section consists of the questions related to pleasant and unpleasant places in terms of smell perceptions in Porto, as well as the identification of smells. A total of 307 valid questionnaires were obtained from Portuguese and international student in Porto and the analysis of the results is presented in the next section.

3. Results and discussion

3.1 Socio-demographic characteristics of the sample

Analysing the socio-economic characteristics of the sample, among 307 valid responses, 58% is represented by international students and 42% by Portuguese students (Figure 2).

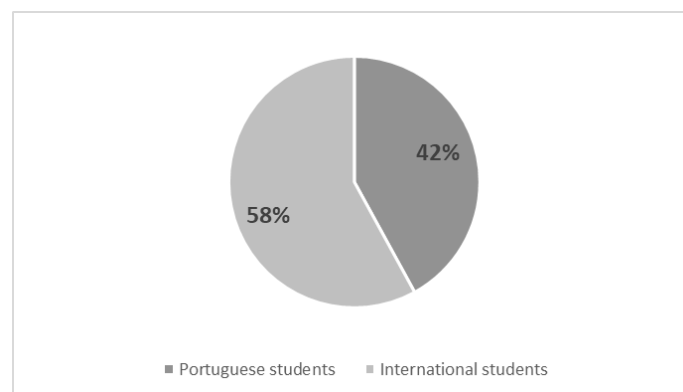


Figure 2: Share of International and Portuguese students

The Figure 3 demonstrates the gender of all respondents. Many of them are represented by female (56%), male (44%) and with the average age of all students 21.

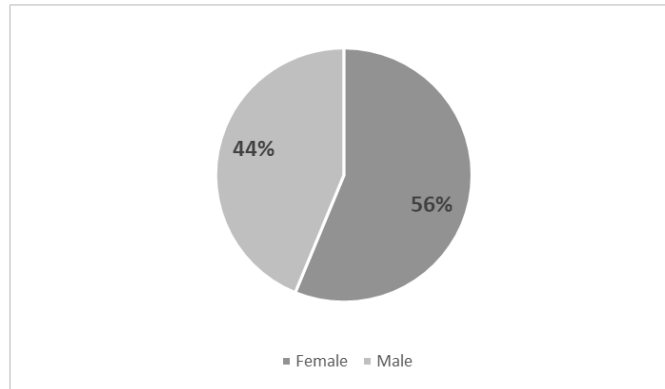


Figure 3: Gender of the respondents

The next figure (figure 4) represents the country of origin of the international students. Most of the students are from Poland, Brazil, Germany, Spain, and Hungary. However, it should be noted that Porto is an attractive city for students from other countries such as, Latvia, Iceland, India, Turkey, Pakistan, and Romania, among others.

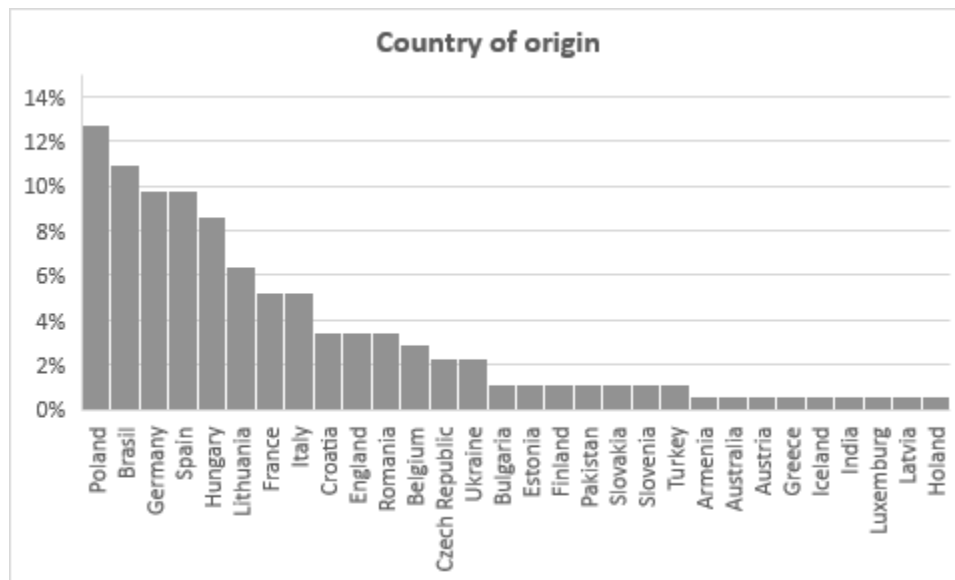


Figure 4: Country of origin of the international students

3.2 Smell perceptions and discussion

One of the objectives of the present study is to examine the students smell perceptions of the city places, by requesting them to identify the city pleasant and unpleasant smell. Since the terminology is not standardized to describe the smell perceptions, it can be adapted in accordance with the ability to interpret the people perceptions (Bembibre and Strlič, 2017).

Concerning to identification the smells both pleasant and unpleasant by Portuguese students, Figures 5 and 6 reveal the interesting results. Nature is the first choice of 22% student perceptions. The nature is associated with gardens, trees, flowers, fresh grass, and plants in general. Food is the second most cited by 10% of the students and curious the references to sweets and cookies with 4% of the sample identification. Another characteristic smell of Porto related with traditional gastronomy is the typical autumn roasted chestnuts (5%) made in the streets and francesinha (2%), which is one of the most popular dishes of Porto. Fresh air is one of the most important selection of 8% respondents, the smell of the ocean and the sea (3%) is related with Porto localization, on the shore of the Atlantic Ocean, understood as a dominating smell of the city. While 2% of the sample identifies the “people movement smell”, that is possibly associated with the identification of the city, as the most visited and crowded place. Other curios perceptions were revealed by 1% of the respondents, namely perfumes and aromas, the smell of “street”, wine and hot bread. The association of hot bread can be

considered as a usual smell of the cities. Interesting the identification of the “amazing” smell, that describes more an emotion rather than a sense.

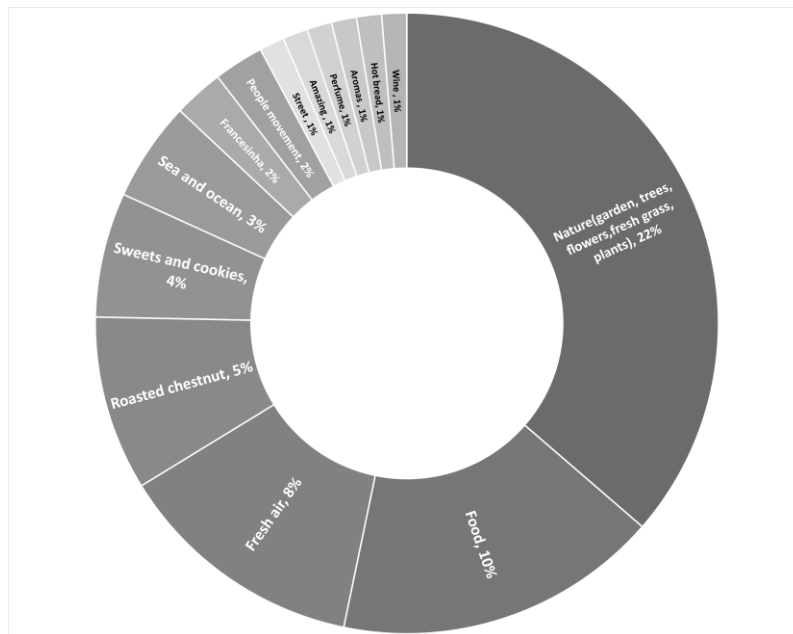


Figure 5: Identification of pleasant smell by Portuguese students

Regarding to unpleasant smells, the Portuguese students identify in first place the dirtiness in general (18%). Smell of fish is one of the most identified (8%), followed by trash (4%), smoke (2%), sewage (2%), car emissions (2%) and with 1% the mix of smells, alcohol, drug, humidity, fuel gas, rotten and sea dirtiness. In these identifications it is possible to find some smells related with the ocean and fishes, that characterize Porto as a maritime city. The humidity reveals the geographic location of the Porto city in the northern Portugal. Other olfactory perceptions are usual to find in cities such as fuel, trash, car emissions, rotten, sewage, and smoke, among others.

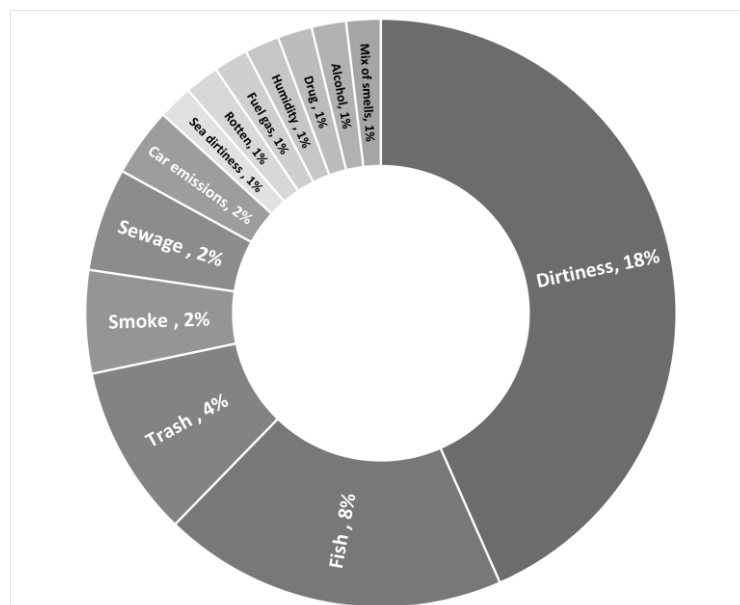


Figure 6: Identification of unpleasant smell by Portuguese students

In addition, the Portuguese students were asked about the pleasant and unpleasant places in the context of smell perceptions in the city Porto. The most frequently selected places by the Portuguese students with a good smell are Crystal Palace Garden (8%), Ribeira (6%), Santa Catarina Street (5%), City Park (4%), Flores Street (4%). On the other hand, analysing the places with unpleasant smell, we can detect that the Bolhão

market is the most identified place, following by the Ribeira (6%), Escura street (3%), Galerias (3%), Flores street (3%). Fifty percent of the students were not able to mention the unpleasant places in the city, explain it by no existence of such places according to their opinion. Note that some of the places could be identified as pleasant and unpleasant by the sample. For example, Ribeira, a place near the river, is identified with 6% as pleasant and unpleasant. The same happens with Flores street selected as pleasant smell place (4%) and unpleasant smell place by 3% of the respondents.

The next step in the analysis is localization of the smell perceptions. Considering the sample size, the study only considered the most frequently selected places in terms of the olfactory perceptions. The garden zones such as Crystal Palace garden, City Park and Morro Garden, are associated with pleasant smells as nature, trees, fresh air, gardens, among others. In the streets Santa Catarina, Flores, Aliados and Ribeira, touristic and popular areas in Porto it is possible to find smells like food, roasted chestnuts, francesinha, wine, sweets, and other special smells as the olfactory perceptions of the “street”, “perfume” and “people”.

Table 1: Localization of the smells by Portuguese students

Places	Pleasant smells identification	Places	Unpleasant smells identification
Crystal Palace Garden	Trees, fresh air, garden, flowers, nature	Bolhão market	Fish, dirtiness
Ribeira	Food, roasted chestnut, fresh food, wine, people	Galerias	Smoke, dirtiness
Santa Catarina street	Roasted chestnut, roasted chestnut, sweets, and food	Ribeira	Dirtiness, trash, fish, sewage
City Park	Fresh air, fresh grass, flowers, trees, garden, nature	Escura Street	Dirtiness, trash
Flores street	Roasted chestnut, flowers, street	Flores street	Dirtiness
Aliados	Roasted chestnut, perfume, food		
Morro garden	Flowers, nature, grass		

Analysing city pleasant smells identified by the international students, the figure 7 demonstrates that nature smell including garden, flowers, vegetation, and trees is the most identified (13%), followed by sea smell (4%), fresh air and food (3%), coffee (1%), new buildings, history, fishes, river, old wood, sweet and wine (1%). It is interesting the perceptions of “new buildings” and “history”, very subjective olfactory perception. As important smells in Porto we can find the sea, the river and other smells related, that announce the geographic location of the city near the Douro river and the Atlantic Ocean. The smell to coffee was identified by 1% as a common aroma in cities.

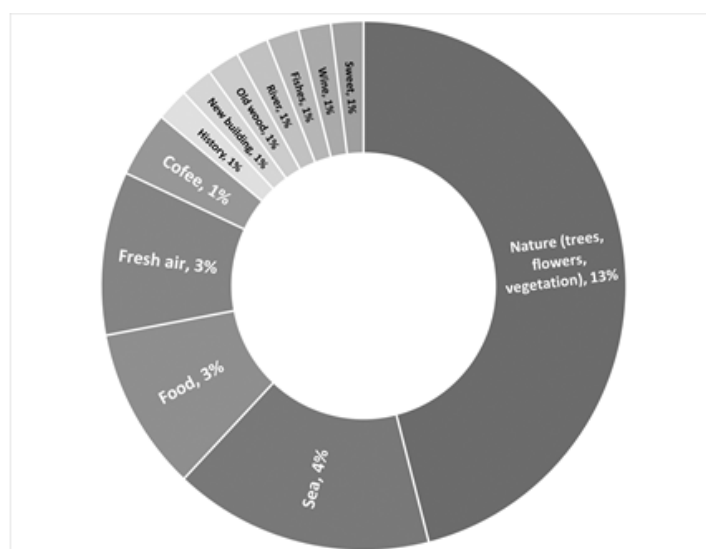


Figure 7: Identification of pleasant smell by International students

The unpleasant smell (Figure 8) detected by the international students are associated mostly with the dirtiness (7%), cars (2%), fish (2%), river water, port and boats (1%), water pollution (2%), flue gas (2%) alcohol (1%), trash (1%), food (1%). Note that the olfactory perception of the food smell is at the same time pleasant and unpleasant. In the case of the Portuguese students, the unpleasant smells are related with the city pollution, traffic, and the river pollution.

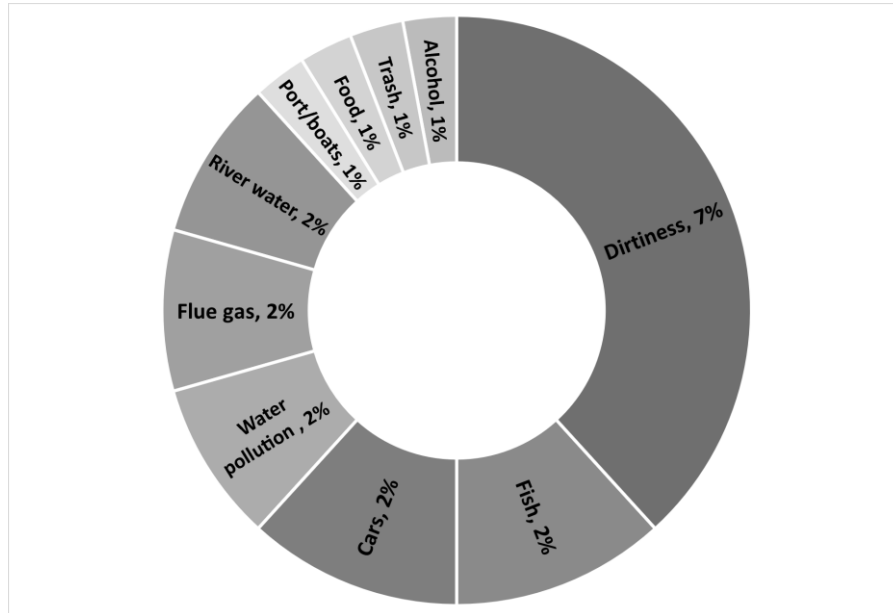


Figure 8: Identification of unpleasant smell by International students

The places with pleasant smell it became clear that the City Park and Crystal Palace garden match to the most frequently selected option by the international students, following by Foz beach and Ribeira. The gardens such as Botanic, Serralves, Cordoaria, Morro were also pointed out as a place with a pleasant smell. This can be supported by previous studies, indicating that green spaces in the city are crucial in the satisfaction of the residents (Hofmann et al., 2012). The study of Freitas et al. (2020) reveal the value of the urban green spaces for residents in Porto and suggest conserving and increasing the number of the green spaces for satisfaction of both the local people and the visitors. The market, main street and squares, museums were selected only once by the respondents. Analysing the unpleasant places, the results demonstrate the unpleasant places are Ribeira, Boavista area, Galerias among others.

The localization of the smell perceptions by international students is presented in the following table (Table 2). The Crystal Palace garden and City park parks and gardens are associated with the nature, trees, flowers, vegetation, and fresh air. Foz beach and Ribeira smell perceptions include sea, river, and food. Regarding unpleasant smell, we can detect that crowded places such as Galerias, Boavista, Santa Catarina street, metro station is associated with dirtiness, alcohol, flue gas, fish among other olfactory perceptions.

Table 2: Localization of the smells by International students

Places	Pleasant smells identification	Places	Unpleasant smells identification
City park	Trees, nature, sea, garden, fresh air, vegetation	Ribeira	River and food, fish, river water, port and boats
Crystal Palace Garden	Trees, nature, fresh air, flowers, vegetation	Boavista	Flue gas, cars, dirtiness
Foz beach	Sea	Galerias	Alcohol, dirtiness
Ribeira	River, food	Santa Catarina street	Dirtiness
		São Bento station	Dirtiness, flue gas

4. Conclusion

The present study aimed to understand and examine the Portuguese and international student's perceptions of the places in the historic city of Porto in the context of the growing interest towards the city among the international visitors and to propose to the decision makers the place quality monitoring.

Comparing the results of the identification of pleasant and unpleasant smells between Portuguese and international students it is possible to find some similarities. Among the pleasant aromas, nature is the most named by Portuguese and international students, food, fresh air and the ocean are choices among all. It is important to understand that the different aromas of the nature, including flowers, trees, vegetation, among others are important to young people that put some emphasis on those place perceptions. As Zardini and Schivelbusch (2005, p.276) reinforced, smells are universal and present everywhere.

Among the unpleasant aromas of the city, we can find as a common choice the dirtiness and smells related with the city and river pollution. Pollution caused by the excessive number of the cars in the cities, increased population resulting in growing sewage, rubbish in the city can be associated with the dirtiness in the city (Marquez, 2017). Galerias, one of the Porto bar and nightlife is one of the most identified places in an unpleasant way, particularly with a lot of smoke. Boavista, Porto area with continuous traffic, Escura Street, Santa Catarina street and Ribeira, historical places in the city centre are one of the most cited places with unpleasant smell. This analysis allows suggesting that the local authorities should give more attention to improve the quality of those places.

The smells related with the ocean and the river are also dominant, but they are not always pleasant, they could be unpleasant. The river Douro and the Atlantic Ocean are in fact important historical places in Porto. Consequently, those smells could identify places and could be implicit as heritage and phenomenon of identity (Bembibre and Strlič, 2017). In this context, we could identify in Porto some of the smells as characteristics of identity: the smell of the river, port, boats, and sea. In a near future, it would be interesting to clarify the identity of Porto's smells.

In particular, Portuguese students give more attention to traditional values as we can see in the selection of the smell of francesinha and roasted chestnuts Porto's traditional gastronomy and cultural traditions. As (Xiao, 2020) reinforce, smells evoke emotions and social meanings. The smell association in the city can vary during seasons and time of the day (Mazrquez, 2017). In this way we only have roasted chestnut in Porto in autumn (chestnut are autumn fruits) and the smell of francesinha is at lunch or dinner time. Despite of the occasional and seasonal smells they kept in memory.

In terms of identification of the smells correspondents to places the Portuguese students reveals to know better the city with the localization of specific aromas and city places less touristic and more residential, such as Escura street and Bolhão market. The international students localize the touristic area and do not detail the aromas as the Portuguese students.

In a near future, another study will discuss the smells, sounds and colours with other younger and older samples to understand the general perceptions residents and tourists have towards the Porto city.

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