

# CHANGES IN CITY SPACE FAMILIARITY AND PREFERENCES AMONG SHORT-TERM VISITORS

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**Abstract.** To investigate the processes by which short-term visitors become accustomed to a new city and the resulting changes in familiarity and preferences related to its spaces, we conducted a series of questionnaire surveys on 64 Japanese university students attending a month-long summer program in Portland, OR, USA. We observed two major phases in the process of short-term visitor familiarization with the city: a beginning sharing phase during which many students shared a common recognition of areas and places, and a subsequent customizing phase in which familiar territories and favorite places became more diversified and segmented for each individual.

**Keywords:** Short-Term Visitors, Familiar Territories, Favorite Places

## 1. Introduction

In many cases of urban regeneration in recent decades, people-friendly city centers with walkable neighborhoods, accessible public transportation, and inviting public spaces tend to be the key factors. Though people often feel familiar with and prefer such city centers, the basis of the formation of this favorable feeling remains unclear.

A number of studies have sought to examine how people become accustomed to a new environment and form a favorable feeling (or not) toward its spaces. Hernández et al. (2007) compared place attachment and place identity between different birthplaces and lengths of residence. Brown et al. (2007) examined the relationships between place attachment and landscape values of residents and visitors using two measures of place attachment, that is, a psychometric, scale-based measure, and a map-based measure derived from designated special places. Using sketch maps and

qualitative geographic information systems (GIS), Pearsall et al. (2015) explored the socio-spatial perceptions of youth on a college campus and changes in these perceptions during their participation in a university program. Based on a multi-year qualitative study of travel behavior, preferences, and needs, Bose (2014) explored the idea of mobility for refugees who had resettled in a non-traditional immigrant destination in the United States. Walmsley et al. (1992) analyzed sketch maps of unfamiliar resort areas drawn by visitors, and found that these visitors had quickly developed cognitive images of the areas. These cognitive maps were influenced by experience, both in the immediate sense, based on the length of time spent in the area, and in the more general sense, based on the lifestyle to which the tourist was accustomed.

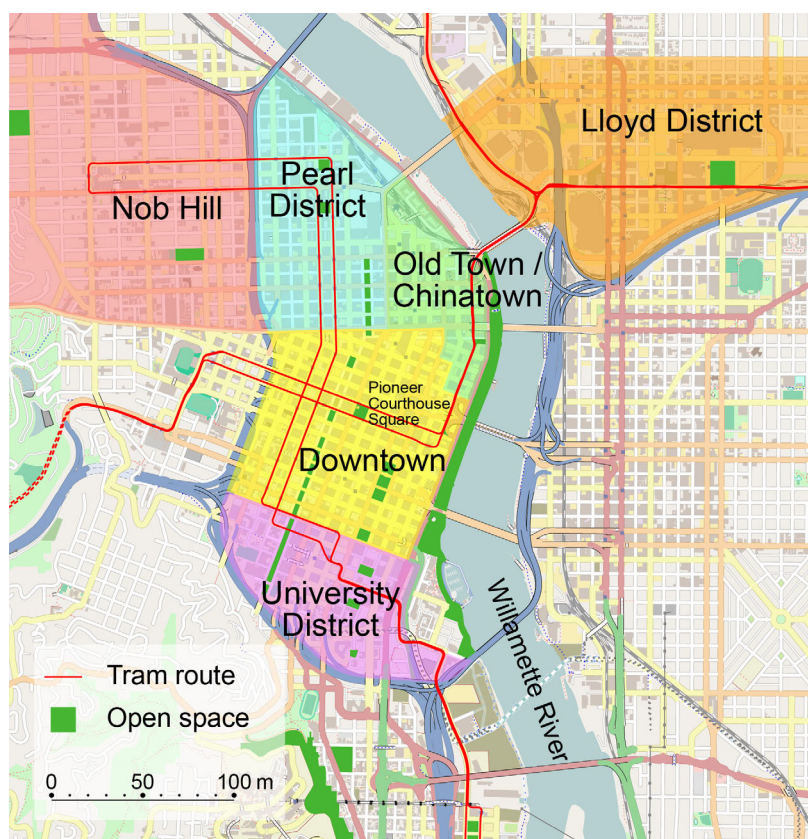
In this study, we investigated the processes of change in cognition, familiarity, and preferences in relation to city spaces of short-term visitors who stayed in a new city for one month to attend a university summer program. We expected these changes to be relatively observable due to the condensed amount of time over which they would occur. We obtained data by conducting multiple questionnaire surveys that included sketch maps.

## **2. Approach and Methods**

To investigate the processes by which short-term visitors become accustomed to a new city, as well as the resulting changes in familiarity and preferences related to its spaces, we conducted a series of questionnaire surveys on 64 Japanese university students attending a month-long summer program in Portland, OR, USA.

### **2.1. An overview of the study area**

Portland has a well-planned and compact city center with various open spaces and a comprehensive public transportation system that includes streetcars and MAX Light Rail (hereafter tram), Portland Aerial Tram, and buses (Figure 1). It is located on the west bank of the Willamette River. Downtown Portland features Pioneer Courthouse Square, also known as "Portland's living room", which is surrounded by a commercial district. The University District, where Portland State University facilities are scattered, is just south of downtown. Located just north of downtown are Nob Hill, which has cozy shops, cafés, and restaurants, Pearl District, a cultural quarter that is a revitalized former industrial district, Old town Chinatown, which borders the Willamette River, and Lloyd District, which is located on the other side of the river and has large-scale facilities such as the Oregon Convention Center.



**Figure 1.** Areas in Portland's city center (tram routes as of 2008)

## 2.2. Questionnaire surveys

We conducted a series of questionnaire surveys on 64 Japanese university students attending a month-long summer program in Portland, OR. The summer program was held at Portland State University from August 5 through September 4, 2008, and included English as a second language (ESL) programs, excursions, and homestays. The students stayed in a dormitory at Portland State University in the city center except during homestay visits.

The surveys were carried out three times during their visit as follows: the first survey was conducted during the 5th to 10th days, the second during the 15th to 20th days, and the final during the 25th to 30th days. The questions asked the students to describe their daily activities and movements in Portland, and to sketch familiar territories and mark their favorite places on maps. Table 1 shows the questionnaire items.

Responses were obtained from 64, 63, and 61 students in the first, second, and third surveys, respectively. We excluded responses from three students who did not respond to all three surveys, and thus responses from 60 students were analyzed.

Category	Major questions
Personal attributes	Gender, age, previous visits (it was every student's first visit)
Daily life	Anxiety, desired information
Public transportation	Impression of public transportation, use of tram and bus
Familiar territory	Sketch map of familiar territories, means of transportation, markers for guidance
Favorite place	Sketch map of favorite places, purpose of visit, how to spend time, visiting frequency, means of transportation

**Table 1.** Questionnaire to the students

### 2.3. GIS data input

In the questionnaire survey, the students were also asked to respond to the following: "Imagine you are standing alone in front of your dormitory. You then start traveling around Portland's city center. Please sketch areas on the map where you can easily travel." A few overlaid samples of these sketched areas (hereafter "familiar territories") from the first, second, and third surveys are shown in Figure 2. Familiar territories were represented as polygons in GIS, and then converted into 20 m raster grids. Familiar territories for all students were overlaid with one another during each survey period (hereafter "overlaid territorial distribution") to detect general changes in territorial familiarity over time. Differences between the first, second, and third surveys were calculated and then overlaid with all other responses (hereafter "overlaid differential distribution") to detect more detailed changes in territory familiarization.



**Figure 2.** Overlaid samples of familiar territories and favorite places

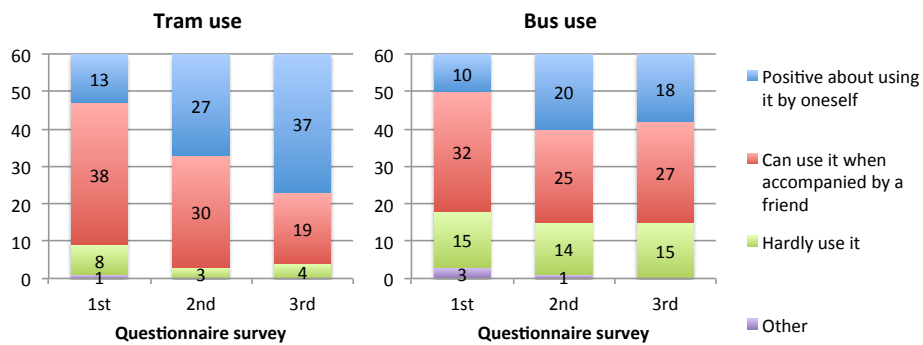
In the questionnaire survey, the students were also asked to "put small sticker labels on all of your favorite places in Portland's city center on the map and number them", and then asked questions about each place such as why it was their favorite, what it looked like, how it was used, and what they did there. A few overlaid samples of favorite places marked by students in the first, second, and third surveys are also shown in Figure 2. Favorite places were represented as points in GIS.

### 3. Analysis 1: Familiar Territories

#### 3.1. Results of the questionnaire survey

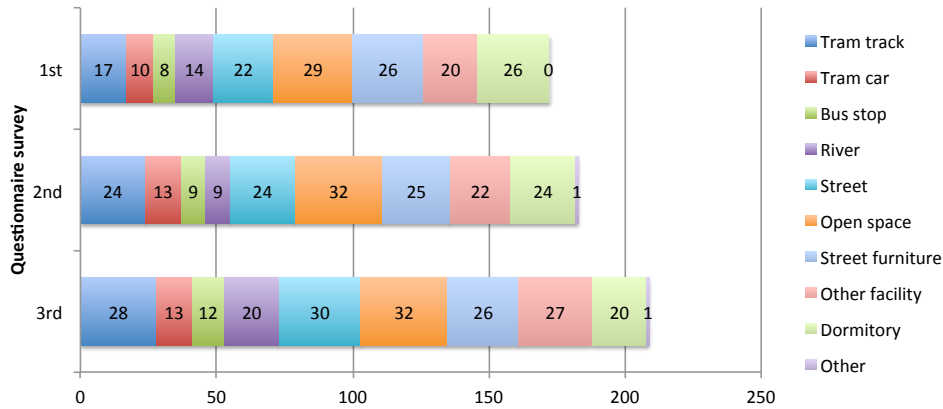
The results of the questionnaire survey concerning use of public transportation for traveling in the city center are shown in Figure 3. Students who responded that they felt "positive about using the tram by themselves" increased over time to 62% by the final survey. On the other hand, students who responded that they felt "positive about using buses by themselves"

increased in the second, but slightly decreased in the final survey to 30%, which was less than half the percentage of positive tram users. The percentage of students who answered that they "hardly used buses" was still 25% in the final survey. This suggests that it requires more time to become familiarized with using buses than with using trams.



**Figure 3.** Use of public transportation

The results of the questionnaire item asking "What markers do you use when traveling in the city center? (multiple answers allowed)" are shown in Figure 4. The number of markers chosen increased over time from 2.9 per person in the first survey to 3.5 per person in the final survey. The percentage of markers did not vary substantially among markers. Open spaces such as parks and plazas were popular markers during the entire stay, while streets and tram tracks were increasingly recognized as markers over time. Street furniture such as signposts were the second popular marker in the first survey, but the 5th most popular in the final survey, as other kinds of markers became popular. Short-term visitors identify places by various elements in the built environment as well as explicit information such as signposts.



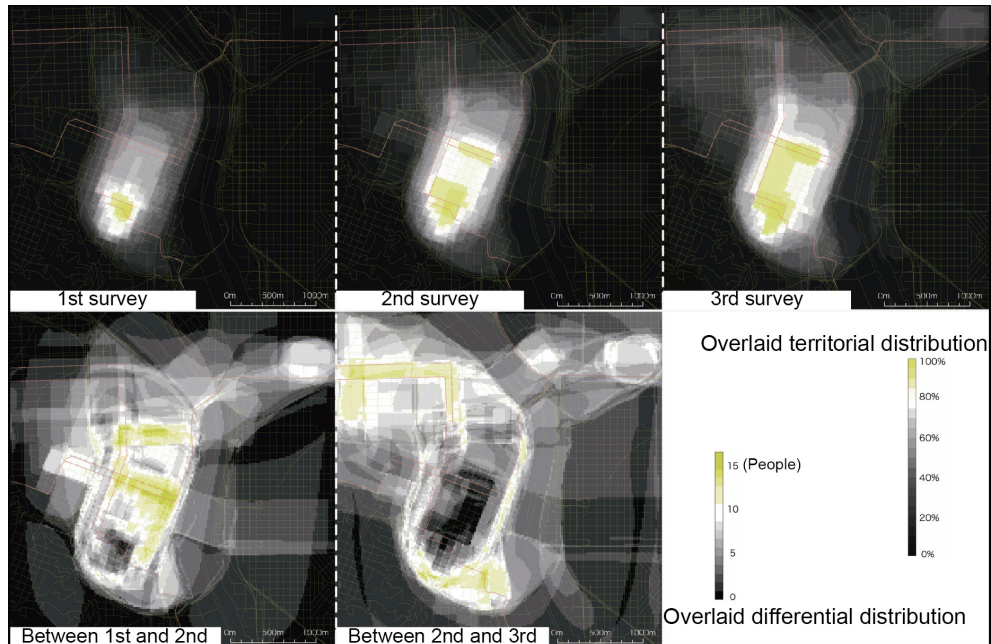
**Figure 4.** Markers for guidance during traveling in the city center

### 3.2. Spatial analysis of familiar territories

The upper row of images in Figure 5 show overlaid territorial distributions for the first, second, and third surveys, respectively. Areas of high probability (yellow areas) expanded over time. In the first survey, areas of high probability were concentrated in the University District, the center of their daily lives. In the second survey, areas of high probability in the University District expanded, and another area of high probability can be observed around Pioneer Courthouse Square in Downtown. In the third survey, areas of high probability extended across the University District and Downtown. While the expansion of familiar territories over two districts is evident, and familiar territories can also be observed extended along tram routes, especially in the second and third surveys. This result is consistent with the answers to the questions regarding the use of the public transportation system and markers to guide their trips.

The lower row of images in Figure 5 show overlaid differential distributions in which differences in familiar territories for all students between the first and second surveys and between the second and third surveys were overlaid. Differences between the first and second surveys illustrate that many students added not only Downtown, but also the Pearl District to their familiar territories. Differences between the second and third surveys illustrated that some students also added the riverfront area to their familiar territories, and many others added areas along tram routes through the Pearl District and Nob Hill.





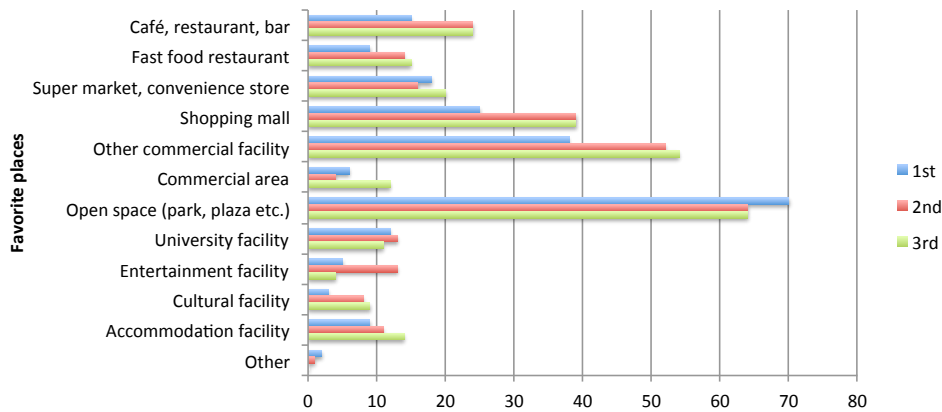
**Figure 5.** Familiar territories (upper: overlaid territorial distribution, lower: overlaid differential distribution)

## 4. Analysis 2: Favorite Places

### 4.1. Results of the questionnaire survey

The results of questionnaire items regarding favorite places are shown in Figure 6. The total numbers of favorite places in the first, second, and third surveys were 212, 259, and 266, respectively. Publicly used open spaces such as parks and plazas remained popular during the students' entire stay. Shopping malls, other commercial facilities, cafés, restaurants, and bars all increased in popularity between the first and second surveys and remained popular in the third survey.



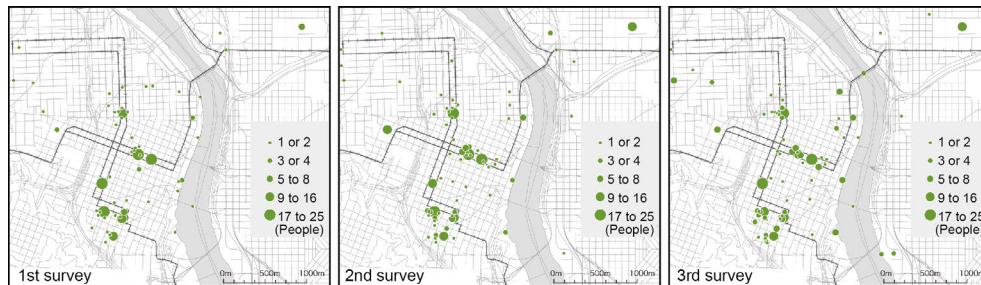


**Figure 6.** Changes in favorite places over the three surveys

## 4.2. Spatial analysis of favorite places

The Distribution of the students' favorite places is shown in Figure 7. In the figure, the size of each circle is proportional to the number of students who chose it as a favorite place. In the formation of favorite places, the following three transition types can be expected: newly added favorite places, retained favorite places, and disregarded favorite places. We noted differences in each student's favorite places between the first, second, and third surveys in order to identify these transition types. Table 2 shows the numbers of total favorite places, newly added favorite places, retained favorite places, and disregarded favorite places. The distributions of these places are shown in Figure 8. The number of students per place in each entry in Table 2 corresponds to the average size of the circles in Figure 8.

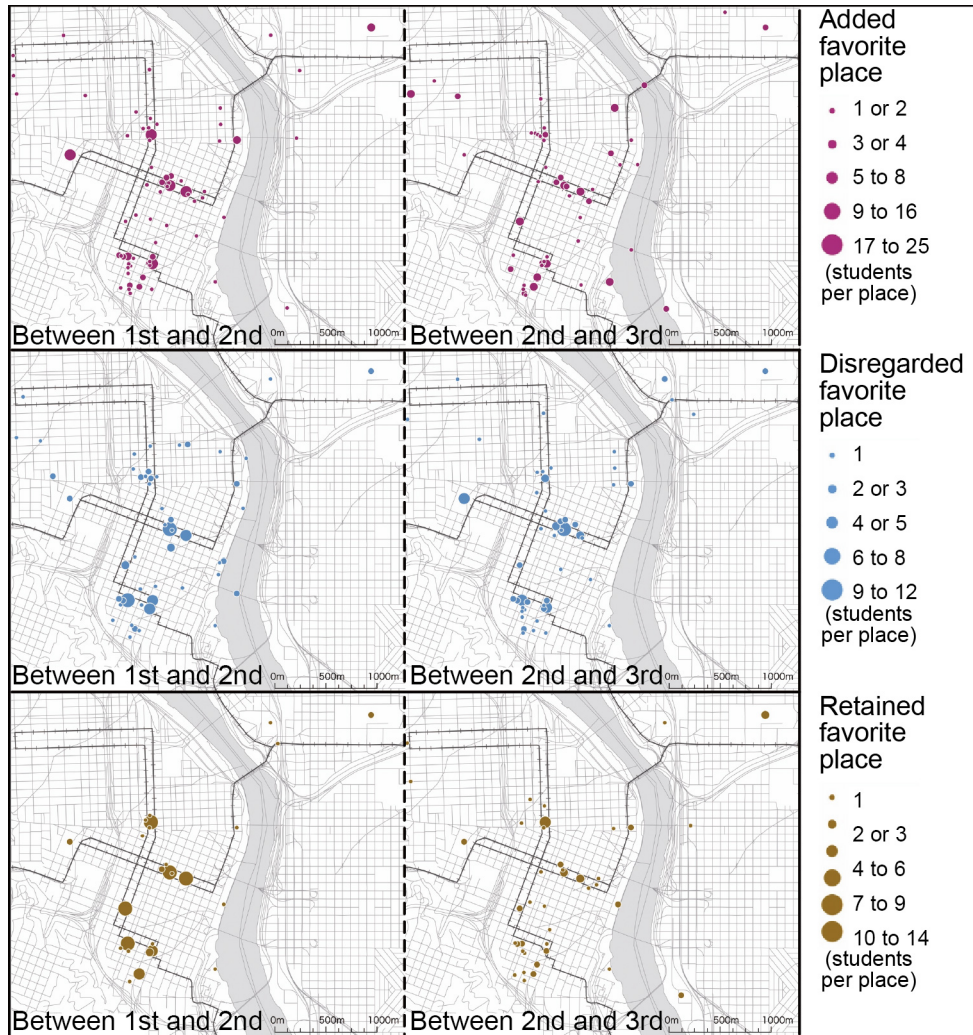
New favorite places were added even as late as the third survey; however, the number of newly added favorite places in the third survey was only two-thirds that in the second survey. The top row of images in Figure 8 show both popular places and a few minor places added in the second survey; variations in circle size were nearly indistinguishable in the third survey. Disregarded favorite places in the second and third surveys were similar in both number and distribution. Favorite places retained between the first and second surveys were concentrated in several places; this suggests that the favorite places chosen by a small number of students in the first survey were not retained as favorite places over time. In contrast, favorite places retained between the second and third surveys were scattered and had a small number of students per place.



**Figure 7.** Distribution of favorite places (left: first survey, middle: second survey, right: final survey)

	[1st survey]	[2nd survey]	[3rd survey]
<b>Favorite places</b>	212 student-places / 61 places (3.5 students per place)	259 student-places / 75 places (3.5 students per place)	266 student-places / 78 places (3.4 students per place)
	[Between 1st and 2nd]		[Between 2nd and 3rd]
<b>Newly added</b>	158 student-places / 68 places (2.3 students per place)		102 student-places / 52 places (2.0 students per place)
<b>Disregarded</b>	111 student-places / 54 places (2.1 students per place)		108 student-places / 51 places (2.1 students per place)
<b>Retained</b>	100 student-places / 26 places (3.8 students per place)		73 student-places / 40 places (1.8 students per place)

**Table 2.** Students' favorite places



**Figure 8.** Favorite places transitions (upper: added, middle: disregarded, lower: retained)

## 5. Conclusions

We conducted a series of questionnaire surveys on new short-term visitors to Portland and examined the data obtained.

Our results suggested that while these visitors generally expanded what they considered to be familiar territories over time, this expansion was neither uniform in direction nor continuous in space. More specifically, a gen-

eral trend towards territory expansion along tram routes and a local peak of overlapping territories in the downtown area were observed. On the other hand, familiar territory expansion varied significantly among individual students. By observing individual student responses, we found that the familiar territories of some students remained small, while the territories of a few others actually decreased in area over time.

We then considered changes in favorite places. At the beginning of their stay, a few common places were shared as favorites by many students; these places subsequently remained popular. Later in their stay, individual students added a variety of different places as favorites. The primary favorite places, which were shared in the beginning and continued to remain popular throughout the study period, are shown in Table 3. These locations shared common factors such as being open to the public and accommodating multiple uses. Additionally, some long-term favorite places served as footholds for subsequent territory expansion, as territorial familiarity tended to expand from those locations.

District	Place	Reasons why the place was favored
University District	900 m lawn open space	Green and relaxing, good lawn, close to the university, good place to eat lunch
	Supermarket	Often visit, convenient to buy food, one-stop shop
Downtown	Pioneer Courthouse Square	Fun to be with a variety of people, can enjoy many kinds of events, can play chess, major landmark in the city
	Shopping mall	Cool, can shop and eat, convenient, good place to take a rest
Pearl District	Large bookstore	A wide variety of books, free browsing allowed, can stroll into on the way to Pearl District

**Table 3.** Common places shared as favorites

These results suggest that the following two major phases can be observed in the process of short-term visitor familiarization with a new city: a beginning sharing phase, during which many students share common recognition of areas and places, and a later customizing phase, during which familiar territories and favorite places became more diversified and segmented for each individual, as shown in Table 4.

		Earlier	—————→	Later
		<b>Sharing phase</b>		<b>Customizing phase</b>
Familiar territories		By expanding from the University District, Downtown becomes familiar.		Expanded along the tram routes
				Expanded toward South Waterfront
Favorite places		A few common places are shared as favorites.		Each student has their own favorite places.

**Table 4.** Two phases of familiarization with a new city

## References

- Bose, P. S. (2014). Refugees in Vermont: mobility and acculturation in a new immigrant destination, *Journal of Transport Geography* 36, 151-159.
- Brown, G., and Raymond, C. M. (2007). The relationship between place attachment and landscape values: Toward mapping place attachment. *Applied Geography*, 27(2), 89-111.
- Hernández, B., Hidalgo, M. C., Salazar-Laplace, M. E. and Hess, S. (2007). Place attachment and place identity in natives and non-natives, *Journal of Environmental Psychology* 27, 310-319.
- Pearsall, H., Hawthorne, T., Block, D., Walker, B. L. E. and Masucci, M. (2015). Exploring youth socio-spatial perceptions of higher education landscapes through sketch maps, *Journal of Geography in Higher Education* 39(1), 111-130.
- Walmsley, D. J. and Jenkins, J. M. (1992). Tourism Cognitive Mapping of Unfamiliar Environments, *Annals of Tourism Research*, 19, 268-286.