

# GENDERED AND GENDER-NEUTRAL CHARACTER OF PUBLIC PLACES IN ALGERIA

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**ABSTRACT:** This article aims to determine whether Algerian public spaces are gendered or gender neutral and to deduce the place of women in this type of hedonistic aesthetic consumption space. A non-probability sample of 363 individuals allowed us to collect the necessary data on the basis of an experiential scale designed for Algerian public spaces. This scale offers us the possibility of measuring their spatial and phenomenal experiential tendency. In other words, it allows us to evaluate the potential of their sensorial, relational, emotional, cognitive, behavioural spaces, their urban environments and their spirits of the place. This scale has undergone the tests of reliability and validity laid down by Churchill. It has also undergone the latest generation confirmatory factor analysis (CFA) method. Due to the non-normality of the sample distribution, we applied non-parametric tests in our analysis. The Mann Whitney U tests were used to calculate and compare the indices of spatial and phenomenal segregation of public places. The results revealed the gendered or gender-neutral nature of the three public places with their respective mapping. In the end, on the basis of the cultural dimensions of Hofstede, we were able to get to know the populations of the cities in our case studies that require urgent awareness-raising action. This promotes gender equality and especially the right of women to use and occupy hedonic public spaces without any conditions or prejudice.

**KEYWORDS:** public place, gendered space, gender-neutral space, experiential spaces, indices of spatial and phenomenal segregation

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## Introduction

The first works that sought to shed light on 'the gendered construction of urban spaces' (Coutras 2008) owe much to studies investigating the daily activities in some categories of public and private spaces in the northern cities of the West (Moghadam, Rafieian 2019). Conducted during the 1970s, those works covered reflections on the usual use of these spaces by men and women. Subsequently, southern cities in the West were

also surveyed, especially after the famous article by Monk and Hanson (1982) criticising the exclusion of women by geographers even in their text book (Mayer 1989). On the other hand, little work has been devoted to the issue of women's place in the public space in North African cities. To our knowledge, only one doctoral research has been carried out in the city of Sétif<sup>1</sup> (Harfouche 2019)

<sup>1</sup> Sétif is an Algerian city located in the north-west of Algeria.

and much less has been done by men in the cities of southern Algeria.

Overall, all the “research concerning the [West] concluded that the city ‘locked’ women into residential proximity and ‘rendered them invisible’ elsewhere” (Coutras 2008). According to Terlinden, this is rooted in the traditional cultural norms that project “images of public men and private women” (2003). Moreover, practically all research work handling the general issue of women’s place in the public sphere and the public arena is underpinned by the idea that “elaboration of modern and civil thought is linked to the construction of these two images” (Terlinden 2003).

Indeed, all this research argues that the city as it is built today is not adapted to women since it is made by men and for men. This supposes that the practice of public space is conditioned by and for the benefit of men. Since the city and its public spaces are “predominantly designed, built, appropriated by men” (Faure et al. 2017), they are as a result not easily accessible to women.

This state of affairs is not specific to the urbanisation of contemporary cities. It goes back to the ancient cities as reported by Hannah Arendt who states that “Greek City-states were based on two distinct spheres of life, the Oikos or private households, which serves primarily to satisfy human needs and provide for the necessities of life, and the Polis or public space, which is reserved for intellect and debate” (1958)<sup>2</sup>.

Indeed, despite the Industrial Revolution and the collapse of the household economy, which favoured women’s participation in the work force outside the home, access to public space remained an illusion, despite recurrent calls (Terlinden 2002).

Even today, it is still the case that “the rise of capitalism requires more [female] labour for the service sector; and more [women] to work in the service sector and more [consumer women] to buy the consumer goods produced”. The presence of women, so much sought after by retail businesses, does not apparently enable women to ensure their equality with their male counterparts in the public space (Terlinden 2003).

Indeed, all his studies confirm that even with the modern-day obligation to allow for the co-presence of women in the public space, the

latter has become a privileged place where “gender practices are configured to ensure the perpetuation of the patriarchy and men’s domination” over women and where men voluntarily exert their ‘hegemonic masculinity’ (Connell 2014)<sup>3</sup> over female submission. According to her research, women are in the current reality allowed to occupy themselves<sup>4</sup> in the public space while men occupy this space in their own right.

This phenomenon can be observed even among children in primary schools, where boys occupy the centre of the schoolyard whereas girls stand aside on its periphery. Indeed, “one of the salient features [of schoolyards] is the distinct use of the space by girls and boys” (Ruel, sine die). Girls “must then agree to be second-tier participants and to be [used] to fill the lower positions” (Delalande 2003). This gender aversion is reflected even in public places among adults in contemporary Western society.

All these studies “reveal the majority of women feel excluded, not being in their place, having to monitor their behaviour, being less accepted or even vulnerable in certain places and at certain times” (Faure et al. 2017). In addition, all this research contradicts the current trend that promotes the principles of a sustainable and equitable city, for all its citizens without distinction or segregation.

From our point of view, all of the previous research falls within the paradigm of critical theory<sup>5</sup>, and rarely does it originate from the ‘post-positivism’<sup>6</sup> paradigm. Thus, in this paper, we simply aim at investigating the place of women in the public space by applying the ‘post-positivist’ paradigm. We are interested in exploring the public space from its gendered character which, however, seems to us to be physically gender-neutral. Our aim is to map the gendered or gender-neutral character of public spaces in Algerian cities in an era of sustainable development.

Furthermore, given that the economy is one of the three sustainable development pillars and

<sup>2</sup> In: Terlinden 2003.

<sup>3</sup> In: Moraldo 2014.

<sup>4</sup> The presence of women in the public space fulfils the role of accompanying and watching over their children or vulnerable persons with disabilities.

<sup>5</sup> In the ‘critical theory’ paradigm, qualitative methods are adopted.

<sup>6</sup> In the ‘post positivism’ paradigm, quantitative methods are adopted.

that consumption is one of its three engines along with investment and openness, we are, therefore, certain that there would be no sustainable development without consumption. However, since consumption is generally based on aesthetics, we asked ourselves, then, how and to what extent public places are realised as gendered objects (male vs. female) in the perception of those who use it in a situation of hedonic aesthetic consumption, which requires a bodily<sup>7</sup> and sensitive immersion of users.

Used in connection with public spaces, the term 'hedonic' and the phrase 'hedonistic aesthetic consumption space' correspond to the users' desire to enjoy themselves in the public space. In other words, in this sustainable development era, users of public spaces, which are used as urban stays, enjoy themselves in consuming this type of space, its atmosphere and its spirit of the place, in an aesthetic and hedonistic way in the sense of a daily and event-based experience. This trend follows the paradigm of experiential marketing (Holbrook, Hirschman 1982). Today, urban planners are influenced by this new paradigm, which

has inspired the design of our experiential model and measurement tool.

Thus, in this research, we assumed that within a context of an aesthetic consumer society influenced by sustainable development, it is through the experiential experience of users that the gendered or gender-neutral characteristics of public spaces can be determined. It is only through the experiential that one can measure and map gender segregation in a space, despite the caveat of Jaillet, Perrin and Menard, who contended that "notwithstanding the advances of statistical analysis [urban segregation] is difficult to measure quantitatively" (2008). In other words, we assume that, within the experiential paradigm, the perception of users according to gender can determine the gendered or gender-neutral character of public spaces and map their spatial segregation phenomenon.

## Case study

To test our hypothesis and determine whether the components of the public places in our study are characterised by gender, three public places

<sup>7</sup> Male and female.

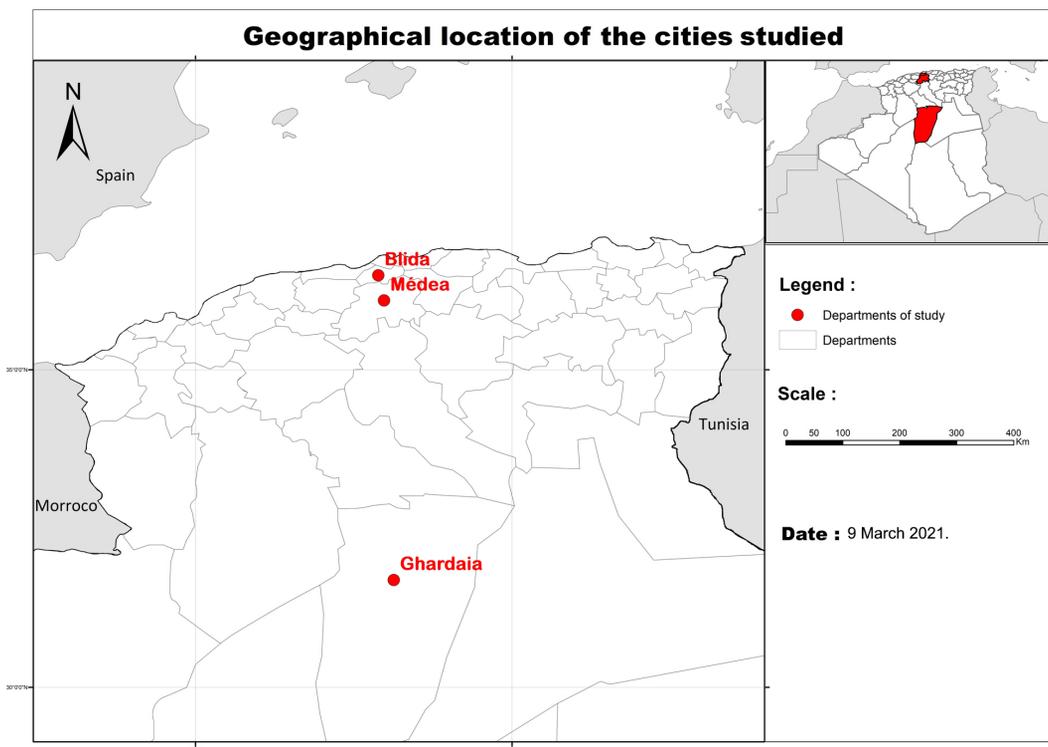


Fig. 1. Location of Blida, Medea and Ghardaia cities.  
 Source: drawn by authors.

were selected from the following cities: Blida, Medea and Ghardaïa (Fig. 1).

The choice of public places in these three cities was based on the following criteria:

- Historical temporality of Algerian public places: the first public place with a pre-colonial character (Ghardaïa's marketplace); the second with a colonial style (Medea's November 1st 1954 Square); and the third belonging to the post-colonial period (Blida's Liberty Square),
- Geographic location: because of the vast expanse of Algeria and the means of investigation at our disposal<sup>8</sup>, we limited ourselves to public places located on the central axis of the country. Thus, we chose a public space located in the north of the Mitidja plain (Blida); a second place in the central Tellian Atlas (Medea); and a third one in the south of the country (Ghardaïa);
- Scale and status of the places: we opted for public places that "fulfil a function of centrality" (Korosec-Serfaty 1988) and which have a structuring effect at the scale of their city's territory;
- Functional diversity: Hedonic place vs. Trading place;

- Size of the cities: we selected cities, which are capitals of the *wilaya* (province) and which are medium-sized with a population between 90,000 and 165,000 inhabitants<sup>9</sup>; and
- Importance of the city; the main place of each city.

### The city of Blida

The city of Blida is the capital of its *wilaya* (province), located 38 km south of the country's capital Algiers in the Mitidja plain (36°28'60"N, 2°49'60" E) at a latitude of 364,833; a longitude of 283,333; and an altitude of 229 m. It is characterised by a Mediterranean climate. The city has 163,586 inhabitants (Advercity 2019).

### Blida's Liberty Square

Built during the 1970s, 'El Manar' cinema was devastated by fire and in the aftermath, the municipality decided to complete its demolition together with the workshops and adjoined the free land on the premises to create a new public place called Liberty Square. The latter is located inside the inner boundaries of the city's historic core, more precisely on the north-west side of it, in front of the

<sup>8</sup> In terms of time and funding.

<sup>9</sup> Blida: 163,586 inhabitants; Medea: 138,355 inhabitants; Ghardaïa: 93,423 inhabitants (Advercity 2019).



Fig. 2. Blida's Liberty Square, support for activities related to experiential marketing. Source: authors, February 2019.

city gate called 'Bab Essebt'. It is bounded to the north-west by Colonel Lotfi Avenue; to the north-east by El Aïchi Abdellah Avenue; to the southeast by August 20, 1955 Street; and to the southwest by Mahdjoub Boualem Avenue. With its rectangular shape of about 127 m by 51 m, the place consists

of five areas. The first is an open and unobstructed central area fitted out on its four peripheral sides with about twenty benches. The second area on the north-west side has an elongated rectangular shape sided by two rows of evergreen trees offering shade on two sets of benches. The third area,



Fig. 3 Blida's Liberty Square, support for activities related to experiential marketing.  
Source: authors, February 2019.



Fig. 4. Blida's Liberty Square, support for activities related to experiential marketing.  
Source: authors, May 2019.

located to the southeast, consists of two linear water jets separated in the middle by a stone memorial commemorating the martyrs of the Algerian Liberation War. It is also skirted by a row of evergreen trees. The fourth area to the northeast is occupied by two newspapers & tobacco kiosks and a public café (the Milk Bar). In the fifth area to the southwest, there are two more rows of evergreen trees providing shade to users (Figs 2–4).

### The city of Medea

The city of Medea is the capital of its *wilaya*, located 63 km south of Algiers, the capital of the country in the central Tellian Atlas (36°16'3" N, 2°45'0" E) with a latitude of 36,2675; a longitude of 27,501; and an altitude of 981 m. It is characterised by a Mediterranean climate. The city has a population of 138,355 (Advercity 2019).



Fig. 5. November 1st 1954 Square of Medea. Support for various illicit commercial activities and improvised parking in the centre of this public place.  
Source: authors, March 2021.



Fig. 6. November 1st 1954 Square of Medea. Public spaces, which are used as urban stays.  
Source: authors, March 2021.



Fig. 7. November 1st 1954 Square of Medea. Women's presence in the public place is lower than that of men.  
Source: authors, March 2021.

### November 1st 1954 Square of Medea

November 1st 1954 Square is a colonial public place that is rectangular in shape (105 m × 135 m), located in the city centre within the historic core. It is surrounded on its four sides by residential, commercial and service buildings, from the ground floor to the third floor. This layout gives it a character combining interiority and exteriority. Its façades, aligned and ordered according to the classical architecture of the time, give it maximum centrality, reinforced by the plane trees and the

presence of a bandstand in the middle. This place is bustling with crowds and the movement of the faithful going back and forth to the mosque located to the southeast to perform their prayers (Figs 5–7).

### The city of Ghardaïa

The city of Ghardaïa is famous for its ksar with its marketplace located within its historic core. It is one of M'Zab valley's five cities. It is the capital of its *wilaya*, located 481 km south of Algiers, and



Fig. 8. The market for dates (palm fruits), Mozabit rugs and traditional souvenirs.  
Source: authors, December 2016.

more precisely in the centre of the Algerian Sahara (32°28'60" N, 3°40'60" E) at an altitude of 489 m. It is characterised by a dry and hot desert climate. The city has 93,423 inhabitants (Advercity 2019).

### The marketplace of Ghardaïa

Founded in 1884, the city's marketplace is characterised by a slightly bevelled rectangular shape and a surface area of 3,019.71 m<sup>2</sup>. "It is surrounded on all four sides by galleries with

semicircular arcades with shops and stores all along. The latter are topped by another floor. The place constitutes the focal point of about nine alleys, with their nearest parts fulfilling business functions. The place is paved with stones" (Rahmani, Messaoudene 2019) (Figs 8–10).

The city of M'Zab has been classified as a UNESCO World Heritage Site. Its population has maintained practically the same ancestral customs and traditions.



Fig. 9. The marketplace of Ghardaïa. Public benches for seats.  
Source: authors, October 2017.



Fig. 10. The marketplace of Ghardaïa. Public benches for seats.  
Source: authors, April 2018.

## Method: Sampling and measurement of the gendered character of the public places

### Sampling

Prior to the final survey, we conducted for each site repeated visits spread out over the whole day to obtain an average of people present at the sites, as well as the distribution of the population present according to sex and age. Based on these observations, we chose our sample to be as representative as possible of the situation. Thus, one can clearly see that in such a case it is not possible to select randomly individuals from the population by following a list. We used instead a so-called non-probability empirical sampling, in which the choice of respondents is not random, but reasoned (Tansey 2007). For the definition of the selected categories, we have set the following definitions:

- Adolescent: a person aged 15–21 years; adult: a person aged 21 and over.
- Married: a person living as a couple; Unmarried: a single person or widow. After discarding incomplete questionnaires, we obtained a sample size of 363 individuals, including 237 males and 126 females.

Thus, we see that the demographic and social structure represented in Table 1 is distributed as follows:

- 180 individuals for Blida's Liberty Square, including 100 males and 80 females; 81 adolescents vs. 99 adults; 64 married vs. 116 unmarried; 69 university education vs. 104 non-university education and 7 missing.
- 97 individuals for Medea's November 1st 1954 Square, including 79 males and 18 females; 26 adolescents vs. 71 adults; 54 married vs. 43 unmarried; 27 with university education vs. 69 non-university and 1 missing.
- 86 individuals for Ghardaïa's marketplace, including 58 males and 28 females; 15 teenagers vs. 71 adults; 50 married vs. 36 unmarried; 40 university education vs. 46 non-university.

### Measurement tools

Two questionnaires were administered to collect the necessary data. The first covered general questions that can help us target data on age, gender, education and marital status. The second was meant to measure the experiential experience of Likert-type public places on 5 scales (Likert 1932)<sup>10</sup>. It was first designed by Rahmani as part of his doctoral thesis (2020), based on the experiential marketing paradigm of Holbrook and Hirschman (1982), the five experiential modules of Schmitt (1999), the typology of point-of-sale atmosphere of Baker (1986), and the theory

<sup>10</sup> in Boone, Boone 2012.

Table 1. Socio-demographic structure of the sample.

Variables by social classes		Blida		Medea		Ghardaïa	
		Number (frequency)	(%)	Number (frequency)	(%)	Number (frequency)	(%)
Sex	Male	100	55.56	79	81.44	58	67.44
	Female	80	44.44	18	18.56	28	32.56
	Total	180	100.00	97	100.00	86	100.00
Age	Adolescent	81	45.00	26	26.80	15	17.44
	Adult	99	55.00	71	73.20	71	82.56
	Total	100	100.00		100.00	86	100.00
Marital status	Married	64	35.56	54	55.67	50	58.14
	Non-married	116	64.44	43	44.33	36	41.86
	Total	180	100.00	97	100.00	86	100.00
Education	University	69	38.33	27	27.84	40	46.51
	Non- university	104	57.78	69	71.13	46	53.49
	Missing	7	3.89	1	1.03	0	0.00
	Total	180	100.00	97	100.00	86	100.00

Source: authors.

of the spirit of Premack and Woodruff (1978), and Duval et al. (2011).

Thus, we were able to define five dimensions for this questionnaire: sensory, relational, emotional, cognitive and behavioural. However, to measure the indicators for these dimensions, we used the following sources:

- For the sensory dimension: Augoyard (2008), Thibaud (2002); for those perceived by all five senses: Daucé and Rieunier (2002), Lemoine (2005), Bonnefont and Erraja (2006), in other words, those of the visual, tactile, auditory (sound), olfactory: Rémy (2004), Balez (2001) and gustatory atmospheres;
- For the relational dimension, we selected the intimate, personal, social and public relationships: Hall (1966, 1971: 256) and attachment: Lacœuilhe (2000);
- To determine the emotional dimension, we were inspired by the emotions selected by Lichlé and Plichon (2005, (2014), i.e., well-being (fullness), escape, pleasure, nervousness, relaxation and freedom or oppression;
- To describe the cognitive dimension, we focused on the intention, attention, evaluation and memory (recollection and nostalgia) of the users of the public place;
- For the behavioural dimension, we included the approach, avoidance or escape behaviour (Lemoine 2004), positive or negative civic behaviour and engagement in a stay activity.

Two procedures were employed to verify the reliability and validity of this questionnaire:

- The first one was inspired from the approach proposed in the paradigm of Churchill for the development of better measures of marketing constructs (1979) with some minor adjustments. This way, we were able to reduce our questionnaire to 32 items. Its metrological characteristics reveal an internal consistency (Cronbac's alpha) of 0.897 and fidelity, as measured by Pearson correlations between each item and the total questionnaire score, varying from 0.761 (\*\*\*) to 0.894 (\*\*). The correlation computation of each questionnaire item with its own dimension allowed us to check the scale's dimensionality. The range of correlations for the different experiential dimensions is as follows: 0.513 (\*\*\*)-0.754 (\*\*\*) for the sensory; 0.568 (\*\*\*)-0.675 (\*\*\*) for the relational; 0.534 (\*\*\*)-0.749 (\*\*\*) for the emotional; 0.533

Table 2. Results synthesis of the CFA using AMOS and the adjustment indices relating to the model for measuring the experiential experience of public places.

Indices type	Indices validation	Validation thresholds
Absolute indices	CMIN = 286.974	-
	P-associated = 0.000	Between 1 and 2
	GFI = 0.923	>0.9
	AGFI = 0.894	>0.9
	RMR = 0.098 SRMR = 0.0520	The smallest possible <0.8
Incremental fit indices	RMSEA = 0.058	<0.08 (best: < 0.05)
	CFI = 0.940	>0.9
	NFI = 0.941	>0.9
	RFI = 0.876	>0.9
	IFI = 0.940	>0.9
Parsimony fit indices	TLI = 0.926	>0.9
	Normed chi square = 2.134	From 1 to 3

Source: authors

- (\*\*)-0.697 (\*\*\*) for the cognitive and 0.402 (\*\*\*)-0.574 (\*\*\*) for the behavioural. Thus, as can be seen with the sign (\*\*), using the Pearson correlation coefficient, it turns out that the correlation between the set of items and their construct is significant at the 0.01 level (bilateral).
- The second uses Confirmatory Factor Analysis (CFA) of the measurement model<sup>11</sup> using AMOS<sup>12</sup> (Blunch 2012). This reduced the questionnaire to 18 items (Table A in Annex). The absolute, incremental and parsimonious fit indices of the model for measuring the experiential experience of public places argue for very good adjustments in relation to generally accepted standards. (Hu, Bentler 1999) (Table 2).

To simplify the task for the respondents, we designed the questionnaire in two versions: French and Arabic. We opted for these two languages because they are commonly used by the Algerian population.

### The survey process

To carry out the survey and collect the data, we planned several campaigns outside the observation days. The first survey took place in

<sup>11</sup> In this article, we will not delve further into this analysis. It will be covered in a future paper.

<sup>12</sup> AMOS is a structural equation modelling software.

the marketplace of Ghardaïa during the second week of February 2019, according to time slots from 9:30 AM to 4:00 PM. It was a clear and sunny day. The second took place in Blida's Liberty Square during the last week of February 2019. It took place from 9:40 AM to 4:00 PM. On that day, there was sunshine, but the sky was slightly covered with scattered white clouds. The third was carried out in Medea's November 1st 1954 Square, during the first week of March 2019. The questionnaires were handed out and collected from 9:35 AM to 3:50 PM. It was a sunny day with only light white clouds.

In the final survey, we handed out, respectively, 150 questionnaires in Ghardaïa, 220 in Blida and 198 in Medea. The percentage of questionnaires recovered was, respectively, 65.33% in Ghardaïa, 91.36% in Blida and 55.56% in Medea. Regarding the questionnaires containing outliers, the percentage was 8% for Ghardaïa, 9.55% for Blida and 6.57% for Medea. The rate of not-collected questionnaires was 34.67% in Ghardaïa, 8.64% in Blida and 44.44% in Medea. Finally, the percentage of processed questionnaires was 57.33% in Ghardaïa, 81.82% in Blida and 48.99% in Medea, as shown in Table B in Annex.

### Tests and analysis tools

However, since we assumed it was possible to determine the gendered or gender-neutral characteristics of the public places' different spatialities according to gender, and given that the sample did not meet the requirements for a parametric analysis, we chose to compare experiential perceptions using Mann-Whitney's non-parametric *U* test (inferential statistics) (Ruxton 2006); (McKnight, Najab 2010). Statistical analysis of this research was conducted using SPSS 22 software.

To map spatial and phenomenal segregation, we based our mapping on the model of Schelling (1971), and the simulation was performed using Frank's simulation programme, in accordance with Mccown's (2014) contribution to the literature.

## Results

The experiential evaluation of the three public places was based on the perceptions: sensory,

relational, emotional, cognitive, behavioural and phenomenal of the urban atmosphere and the spirit of the place according to gender: male and female. This will be achieved by verifying which of the two hypotheses should be retained: the null hypothesis  $H_0$ <sup>13</sup> or the alternative hypothesis  $H_1$ <sup>14</sup>.

### Results of the normality tests

The results of the Kolmogorov-Smirnov and Shapiro Wilks tests reveal that the experiential variables: sensory, relational, emotional, cognitive, behavioural, urban atmosphere, spirit of the place follow non-Gaussian distributions, as the significance is lower than 0.05 (Table 3).

### Results of the statistical description

In Table 4, the result of the observation shows for each gender category the means, sample size and standard deviation corresponding to each spatial and phenomenal component of the three public places.

### Results of the non-parametric tests: Mann-Whitney *U* tests

The Mann-Whitney *U* test result for Liberty Square shows no significant differences<sup>15</sup> between male and female perceptions in these spaces: sensory ( $z = -0.958, p > 0.05$ ); relational ( $z = -0.912, p > 0.05$ ); emotional ( $z = -1.158, p > 0.05$ ); cognitive ( $z = -0.766, p > 0.05$ ); behavioural ( $z = -0.342, p > 0.05$ ); its urban atmosphere ( $z = -0.115, p > 0.05$ ) and its spirit of place ( $z = -0.995, p > 0.05$ ).

<sup>13</sup>  $H_0$ : null hypothesis for each public place, there is no significant difference between experiential perceptions: sensory, relational, emotional, cognitive, behavioural, urban atmosphere, spirit of the place and the evaluation of the overall satisfaction of men and women. In other words, if  $\mu_1 = \mu_2$ , the two means are equal.  $H_0$  is retained if  $p > 0.05$ .

<sup>14</sup>  $H_1$ : Alternative hypothesis for each public place, there is a significant difference between experiential perceptions: sensory, relational, emotional, cognitive, behavioural, urban atmosphere, spirit of place and the evaluation of the overall satisfaction of men and women. In other words, if  $\mu_1 \neq \mu_2$ , the two means are not equal.  $H_1$  is retained and  $H_0$  is rejected if  $p < 0.05$ .

<sup>15</sup> Since  $p > 0.05$ ,  $H_0$  is retained.

Table 3. Tests of normality of the experiential variables of public places.

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistics	ddl	Sig.	Statistics	ddl	Sig.
Blida's Liberty Square						
Sensory experiential	0.162	178	0.000	0.884	178	0.000
Relational experiential	0.093	178	0.001	0.953	178	0.000
Emotional experiential	0.113	178	0.000	0.956	178	0.000
Cognitive experiential	0.150	178	0.000	0.896	178	0.000
Behavioural experiential	0.123	178	0.000	0.952	178	0.000
Urban atmosphere	0.089	178	0.001	0.949	178	0.000
Spirit of place	0.093	178	0.001	0.952	178	0.000
Medea's November 1st 1954 Square						
Sensory experiential	0.120	97	0.002	0.970	97	0.025
Relational experiential	0.137	97	0.000	0.934	97	0.000
Emotional experiential	0.094	97	0.033	0.955	97	0.002
Cognitive experiential	0.168	97	0.000	0.909	97	0.000
Behavioural experiential	0.118	97	0.002	0.952	97	0.001
Urban atmosphere	0.070	97	0.200*	0.978	97	0.111
Spirit of place	0.088	97	0.060	0.958	97	0.004
Ghardaïa's marketplace						
Sensory experiential	0.250	86	0.000	0.749	86	0.000
Relational experiential	0.230	86	0.000	0.805	86	0.000
Emotional experiential	0.170	86	0.000	0.871	86	0.000
Cognitive experiential	0.264	86	0.000	0.688	86	0.000
Behavioural experiential	0.136	86	0.000	0.926	86	0.000
Urban atmosphere	0.203	86	0.000	0.790	86	0.000
Spirit of place	0.170	86	0.000	0.851	86	0.000

Source: authors.

\* - the lower bound of true significance.

<sup>a</sup> - Lilliefors Significance Correction.

For Medea's November 1st 1954 Square, the *U* test reveals that the differences between female and male perceptions are statistically significant<sup>16</sup> in its spaces: sensory ( $z = -2.188, p < 0.05$ ); relational ( $z = -2.279, p < 0.05$ ) and behavioural ( $z = -3.718, p < 0.05$ ). However, for its spaces: emotional ( $z = -1.805, p > 0.05$ ); cognitive ( $z = -1.643, p > 0.05$ ); its urban atmosphere ( $z = -0.088, p > 0.05$ ) and its spirit of place ( $z = -1.868, p > 0.05$ ), the differences between male and female perceptions are not statistically significant<sup>17</sup>.

With respect to Ghardaïa's marketplace, the Mann Whitney *U* test indicates no statistically significant differences<sup>18</sup> between female and male perceptions in its spaces: sensory ( $z = -0.473, p > 0.05$ ); emotional ( $z = -1.021, p > 0.05$ ); cognitive ( $z = -1.032, p > 0.05$ ); urban atmosphere ( $z = -1.082, p > 0.05$ ) and spirit of

place ( $z = -1.202, p > 0.05$ ). On the other hand, for its relational space ( $z = -2.922, p < 0.05$ ) and its behavioural space ( $z = -3.902, p < 0.05$ ), the differences between female and male perceptions are significant<sup>19</sup>.

### Index of spatial and phenomenal segregation of the public places<sup>20</sup>

To calculate the segregation index of the phenomenal spatiality for each public place, we assigned a score of one (1) point to the gendered components<sup>21</sup> and zero (0) to the gender-neutral<sup>22</sup>.

<sup>16</sup> Since  $p < 0.05$ ,  $H_0$  is rejected, i.e.  $H_1$  is retained.

<sup>17</sup> Since  $p > 0.05$ ,  $H_0$  is retained.

<sup>18</sup> Since  $p > 0.05$ ,  $H_0$  is retained.

<sup>19</sup> Since  $p < 0.05$ ,  $H_0$  is rejected, i.e.  $H_1$  is retained.

<sup>20</sup> Index of the gendered nature of public places is calculated as a percentage.

<sup>21</sup> When  $H_0$  is rejected, this implies that there is a difference between female and male perceptions and that the space is gendered.

<sup>22</sup> When  $H_0$  is selected, there is no difference between female and male perceptions and that the space is gender-neutral.

Dividing the sum obtained by seven gives the index of spatial and phenomenal segregation of each public place. This index ranges from 0 (completely gender-neutral – space-total inclusion) to 1 (completely gendered space-total segregation) (Table 5).

Thus, the result of the spatial and phenomenal segregation index is equal to 0 for Liberty Square of Blida, 0.43 for November 1st Square of Medea and 0.29 for the marketplace of Ghardaïa.

Furthermore, we applied spatial and phenomenal segregation indices using Frank McCown’s

Table 4. Statistical description by gender category.

Sex		Sensory experiential	Relational experiential	Emotional experiential	Cognitive experiential	Behavioural experiential	Urban atmosphere	Spirit of place
Liberty Square of Blida								
Male	Mean	15.9800	10.8400	17.8485	11.8200	10.5300	26.8200	29.6667
	N	100	100	99	100	100	100	99
	Standard deviation	3.51326	3.21838	4.93915	2.84758	3.11547	5.25007	7.28711
Female	Mean	16.4375	10.5750	18.8125	12.1875	10.4304	27.0125	31.0000
	N	80	80	80	80	79	80	80
	Standard deviation	3.42309	2.75486	4.37222	2.61492	2.92944	4.97715	6.41991
November 1st 1954 Square of Medea								
Male	Mean	12.443	11.493	17.949	11.810	10.848	23.936	29.759
	N	79	79	79	79	79	79	79
	Standard deviation	4.220	2.674	4.961	2.806	3.042	5.586	6.880
Female	Mean	14.833	9.333	15.833	10.444	7.666	24.166	26.277
	N	18	18	18	18	18	18	18
	Standard deviation	2.874	3.725	4.218	3.275	2.828	5.963	6.841
Marketplace of Ghardaïa								
Male	Mean	17.551	13.655	22.086	13.965	12.396	31.206	36.051
	N	58	58	58	58	58	58	58
	Standard deviation	3.078	1.701	2.998	1.776	2.505	4.335	4.346
Female	Mean	17.642	12.535	21.214	13.642	10.178	30.178	34.857
	N	28	28	28	28	28	28	28
	Standard deviation	3.412	1.971	3.499	1.747	2.195	4.937	4.453

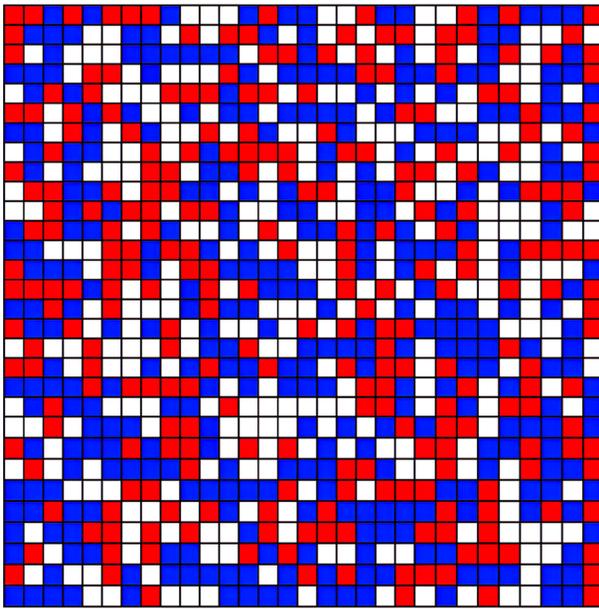
Source: authors.

Table 5. Index of spatial and phenomenal segregation of public places.

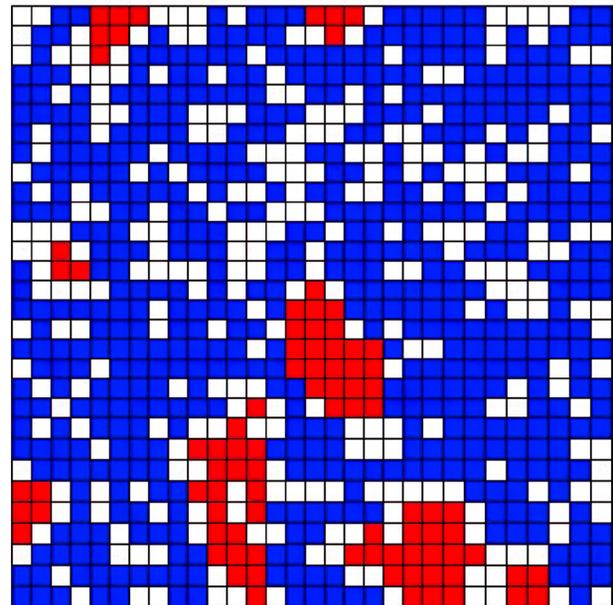
Experiential components		Liberty Square of Blida		November 1st 1954 Square of Medea		Marketplace of Ghardaïa	
		Retained hypothesis	Score assigned	Retained hypothesis	Score assigned	Retained hypothesis	Score assigned
By gender category	Sensory space	H0	0	H1	1	H0	0
	Relational space	H0	0	H1	1	H1	1
	Emotional space	H0	0	H0	0	H0	0
	Cognitive space	H0	0	H0	0	H0	0
	Behavioural space	H0	0	H1	1	H1	1
	Urban atmosphere	H0	0	H0	0	H0	0
	Spirit of place	H0	0	H0	0	H0	0
Index of segregation of gendered experiential spatiality	Experiential space		0.00		0.43		0.29

Source: authors.

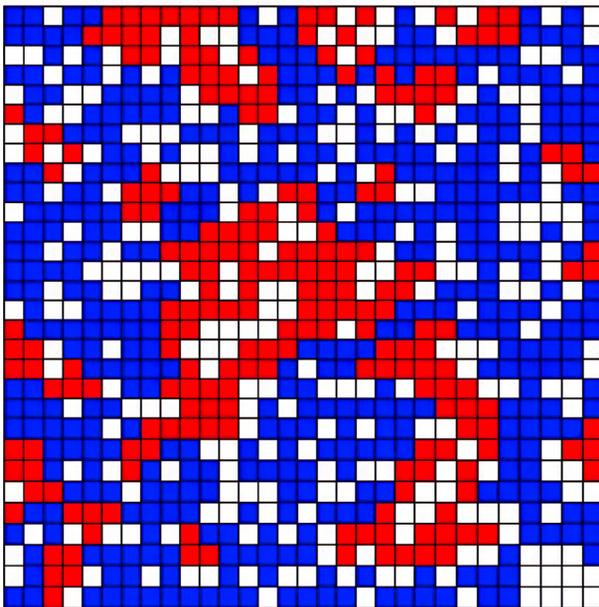
Simulation de Frank McCown

Tour 1  
Satisfied 100%Fig. 11. Spatial and phenomenal segregation in Blida's Liberty Square.  
Source: own compilation.

Simulation de Frank McCown

Tour 52  
Satisfied 100%Fig. 13. Spatial and phenomenal segregation in Ghardaïa's marketplace.  
Source: own compilation

Simulation de Frank McCown

Tour 12  
Satisfied 100%Fig. 12. Spatial and phenomenal segregation in Medea's November 1st 1954 Square.  
Source: own compilation.

simulation<sup>23</sup> (2014) and Schelling's model (Schelling 1971) to obtain spatial distribution diagrams of both genders for the three public places (Figs 11–13). In these diagrams, the red, blue and white colours represent women, men and empty spaces respectively. The input data for these simulations correspond to the sample size obtained from each public place, i.e., 44.44% and 55.66% for women and men respectively for Blida's Liberty Square; 32.56% and 67.44% of women and men, respectively for the marketplace of Ghardaïa; and 18.56% of women and 81.44% of men in Medea's November 1st 1954 Square. In this simulation, the empty space is set at 30% identically for the three public places.

In the case of Blida's Liberty Square, the red and blue squares are scattered randomly. On the other hand, in the case of Medea's November 1st 1954 Square, we see several red grouping zones appear inside a dominant blue area. However, in Ghardaïa's marketplace, the blue squares are not entirely dominant.

<sup>23</sup> 'Segregation simulations implement simplified behavioural rules within a specified urban structure' (Clark, Fossett 2008).

## Discussion and conclusion

Our paper shows, on the one hand, that there is now an applied statistical method built on the experiential paradigm (Holbrook, Hirschman 1982) to determine the gendered or gender-neutral character of public places. These results also enabled us to measure and map the spatial and phenomenal segregation of public places based on gender.

Indeed, this paper presents three major results. The first major result is that (1) the sensory space of Medea's place is gendered whereas those of Liberty Square (Blida) and the marketplace of Ghardaïa are not; (2) only the relational space and the behavioural space of Liberty Square are gender-neutral; the two other relational and behavioural spaces of November 1st 1954 Square in Medea and the marketplace of Ghardaïa are gendered; (3) the emotional and cognitive spaces of the three places are gender-neutral; and (4) the urban atmosphere and spirit of place in the three places are also gender-neutral.

The second major result is that (1) Medea's November 1st 1954 Square is gendered with a rate of 43%; (2) by contrast, the marketplace of Ghardaïa is also gendered with a rate of 29%; (3) however, Blida's Liberty Square enjoys a 100% gender-neutral character. This implies that, from a spatial gender-segregation point of view, Medea's Square is the most affected by this trend. The marketplace of Ghardaïa comes second. However, it turns out that Blida's Liberty Square is not affected by the spatial segregation of genders.

The third result shows that Liberty Square is defined by its gender-neutral character, and one can clearly see the dispersion and scattering of women and men in a balanced fashion. We can attribute this to the quality of inclusiveness of a public place (Rieucan 2012). On the other hand, the diagrams of the two other places show several areas of concentration and clustering; some are held by women while others by men. Thus, we can assign them a status of segregated public places, although at different degrees of segregation; Medea's November 1st 1954 Square is more segregated than the marketplace of Ghardaïa.

In sum, as can be seen from the spatial and phenomenal segregation diagrams in real context, there are seemingly mild preferences for

clustering and interaction with the same sex even with a low index of spatial segregation. This result is consistent with Schelling's postulate, which "became famous precisely because individuals preferences for segregation were not particularly strong" (Vinković, Kirman 2006).

These results also support our hypothesis that in the current context of aesthetic consumer society influenced by sustainable development, the gendered or gender-neutral characteristics of public places can be determined through users' experience.

They suggest that, from an experiential (sensitive) point of view, every public place has several underlying components (spatial and phenomenal), and that some of them may be gendered while others may be gender-neutral.

Moreover, one strong point of gender-based calculation of spatial and phenomenal segregation index of public places is that it is indicative of female vs. male aversion levels.

Similarly, using this index one can estimate the degree to which the citizens of a city accept the co-presence of women and men in public places. In other words, this index is useful, at least in providing a partial answer to the question of "the place of women in the public space" (Ferrand 2004) as a physical setting and a form of interaction and social exchange environment (Chelkoff, Thibaud 1992).

Thus, we can admit that through this index we have come to understand that (1) the citizens of Medea have difficulty freeing themselves from the idea that the place of women is elsewhere than in public places. They find it difficult to accept the presence of women in their city's main public place, which suggests that this public space is not quite a safe place for women. Yet a safe city and a safe space become an international human rights issue in the objectives of the United Nations Women's Initiative. (2) The people of Ghardaïa are more or less in favour of the co-presence of women and men in their public place, despite being known to be a conservative. This is largely due to the number of tourists visiting the region. (3) On the other hand, the population of Blida does not manifest any concern about this co-presence. Some women occupy this place without giving the impression they are there to take care of children or other vulnerable persons; they do not feel excluded. Consequently, one can

conclude that the acceptance of women in public places differs from one region to another.

To account for the exclusion of women from the hedonic public places in the city of Medea, one has to investigate other factors than the political instability. Indeed, although the situation of the city had worsened during this decade as reported by Hamidi (2016), this factor alone cannot explain the exclusion of women from the public arena; the real reasons must be sought in the area of development, where the city of Medea has been the least favoured.

To illustrate, the three cities went through the same hardships during the Algerian revolution (1954–1962), but the city of Medea did not have the same development opportunities as the other two cities after independence.

Furthermore, the three cities do not have the same vocation. The city of Medea is part of the Tell, a region of settlement with a purely agricultural vocation. On the other hand, the city of Ghardaïa is characterised by its tourist vocation, whereas the city of Blida features two large universities. The university not only promotes women's access to the public space (Benzerfa-Guerroudj 1992), but also gender mixing in the latter.

Finally, one has to admit that the city of Medea finally got a new start in the 2000s with the country's return to stability and the realisation of numerous economic, educational, university and cultural infrastructure. This situation has encouraged people to settle in the city (Hamidi 2016). Moreover, change is already beginning to take place with the presence of the university centre of Yahia Fares of Medea, which promotes open-mindedness and acceptance of gender mixing.

Therefore, our results only partially corroborate the works<sup>24</sup> of Connell (2014), Faure et al. (2017), Luxembourg and Messaoudi (2016), and Sharma (2020), which confirmed that in spite of the obligation of modern times forcing the co-presence of women and men in the public space, it remains a privileged place where exclusion of women is practised.

The scope of this paper thus extends beyond the initial objective of determining the gendered

nature of the public places components investigated in our study. Clearly, some public places "are highly charged with meaning and symbolize the society that uses or refers to them" (Berdoulay, Gomes 2010). Based on the work of Hofstede et al. (2005), then, by calculating the index of spatial and phenomenal segregation of this type of place by gender categories, we can also understand how one can assess the cultural evolution of a city's population. This clearly confirms the observations made by Benzerfa-Guerroudj who stated that "the issue of women in the public space is indicative of both the evolution of society and the status of women" (1992).

Indeed, as long as aversions and gaps between genders are seen as a mirror of traditional culture (Hofstede et al. 2005), the result of the spatial and phenomenal segregation index perfectly reflects the cultural evolution and the resistance of traditions, which differ from one region to another. The gendered nature and female vs. male aversion to public places reflect cultural conservatism and a slow pace of change. In other words, the greater the index of spatial and phenomenal segregation, the weaker the (hedonistic) co-presence of men and women in public places and the more the related society is assumed to be rooted in a traditional culture.

Finally, although this research has highlighted the importance of the gendered or gender-neutral character of public places and its influence on their spatial and phenomenal segregation, we must acknowledge that this paper represents, on the one hand, only one facet of the prism of gender geography. On the other hand, it limits itself to a single social category to map the spatial and phenomenal segregation of public places. Therefore, it would be interesting to extend this method to other types of public space (streets, gardens, green spaces, etc.)—and even to public facilities—using a combination of social variables. Moreover, to uncover those new strategies that have been adopted by women to occupy the Algerian public space, it would be interesting, in future research, to examine the relevant socio-historical grounds.

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<sup>24</sup> All these works have adopted a qualitative method, while ours has opted for the quantitative method.

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## References

- Advercity, 2019, October 26. *Statistics of Blida, Medea and Ghardaïa* Retrieved from DB-City.com. Online: <https://en.db-city.com/Algeria> (accessed: 12 January 2020).
- Arendt H., 1958. *The human condition*. University of Chicago Press, Chicago.
- Augoyard J., 2008. Conférence inaugurale: Faire une ambiance? (Inaugural conference: Creating an atmosphere). *1st International Congress on Ambiances*, Grenoble: 17–35.
- Baker J., 1986. The role of the environment in marketing services: The consumer perspective. *The Services Challenge: Integrating for Competitive Advantage* 1(1): 79–84.
- Balez S., 2001. *Ambiances olfactives dans l'espace construit: perception des usagers et dispositifs techniques et architecturaux pour la maîtrise des ambiances olfactives dans des espaces de type tertiaire* (Olfactory atmospheres in the built space: User perception and technical and architectural devices for the control of olfactory atmospheres in tertiary-sector spaces). Doctoral Dissertation. Université de Nantes, Nantes.
- Benzerfa-Guerroudj Z., 1992. Les femmes algériennes dans l'espace public (Algerian women in the public space). *Architecture et comportement* 8(2): 123–136.
- Berdoulay V., Gomes P., 2010. *Image et espace public. La composition d'une scène* (Image and public space. The composition of a scene) 73. Laboratoire Espaces, Nature et Culture (ENEC).
- Blunch N., 2012. *Introduction to structural equation modeling using IBM SPSS statistics and AMOS*. Sage, Los Angeles, London, New Delhi, Singapore, Washington DC.
- Bonnefont A., Erraja K., 2006. Congruence perçue par le consommateur entre l'ambiance olfactive et les autres variables d'atmosphère du magasin: Etude exploratoire (Perceived consumer congruence between olfactory atmosphere and other store atmosphere variables: Exploratory study). *11 ème journée de Recherche en Marketing de Bourgogne* 9–10.
- Boone H., Boone D., 2012. Analyzing likert data. *Journal of Extension* 50(2): 1–5.
- Chelkoff G., Thibaud J., 1992. L'espace public, modes sensibles: le regard sur la ville (Public space, sensitive modes: A look at the city). *Les Annales de la Recherche Urbaine, PUCA*: 7–16.
- Churchill J., 1979. A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research* 16(1) 64–73.
- Clark W., Fossett M., 2008. Understanding the social context of the Schelling segregation model. *Proceedings of the National Academy of Sciences* 105(11): 4109–4114.
- Connell R., 2014. *Masculinités. Enjeux sociaux de l'hégémonie* (Masculinities. Social stakes of hegemony). Amsterdam (Éditions).
- Coutras J., 2008. Territoires du quotidien et espaces sexués. Du voisinage résidentiel aux espaces d'anonymat (Everyday territories and gendered spaces. From residential neighbourhoods to spaces of anonymity). *Strates. Matériaux pour la recherche en sciences sociales* 14: 225–235.
- Daucé B., Rieunier S., 2002. Le marketing sensoriel du point de vente (Sensory marketing of the point of sale). *Recherche et Applications en Marketing (French Edition)* 17(4): 45–65.
- Delalande J., 2003. Culture enfantine et règles de vie. Jeux et enjeux de la cour de récréation (Children's culture and rules of life. Playground games and issues). *Association Terrain* 40: 99–114.
- Duval C., Piolino P., Bejanin A., Laisney M., Eustache F., Desgranges B., 2011. La théorie de l'esprit: aspects conceptuels, évaluation et effets de l'âge (The theory of mind: Conceptual aspects, evaluation and effects of age). *Revue de neuropsychologie* 3(1): 41–51.
- Faure E., Gonzalez E., Luxembourg C., 2017. *La ville: quel genre?* (The city: what kind?) Le temps des cerises.
- Ferrand M., 2004. La place des femmes dans l'espace public (The place of women in the public space). In: Ferrand D.M. (ed.), *Féminin Masculin*. La Découverte, Paris: 66–83.
- Hall E., 1966. *La dimension cachée* (The hidden dimension). Doubleday, New York.
- Hall E., 1971. *La Dimension cachée* (The hidden dimension). Éd. du Seuil, Paris.
- Hamidi D., 2016. La centralité linguistique du français dans l'affichage publicitaire à médéa en algérie (The linguistic centrality of French in advertising in Medea, Algeria). *Francisola* 1(1): 12–18.
- Harfouche A., 2019. Les femmes et l'espace public en Algérie: appropriations et sociabilités publiques à Sétif (Women and the public space in Algeria: Appropriation and public sociability in Sétif). Doctoral Thesis.: École doctorale Milieux, cultures et sociétés du passé et du présent (Nanterre), en partenariat avec Laboratoire Architecture, Ville, Urbanisme, Environnement (LAVUE), Paris.
- Hofstede G., Hofstede G., Minkov M., 2005. *Cultures and organizations: Software of the mind*, Vol. 2. McGraw-Hill, New York.
- Holbrook M., Hirschman E., 1982. The experiential aspects of consumption: Consumer fantasy, feelings and fun. *Journal of Consumer Research* 9(2): 132–140.
- Hu L., Bentler P., 1999. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal* 6(1): 1–55.
- Jaillet M., Perrin E., Ménard F., 2008. Diversité sociale, ségrégation urbaine, mixité. Plan urbanisme construction architecture (Social diversity, urban segregation, diversity. Urban planning, construction and architecture). *Collection « Recherches » du PUCA (Plan urbanisme construction architecture)* No. 180, Paris.
- Korosec-Serfaty P., 1988. La sociabilité publique et ses territoires-Places et espaces publics urbains (Public sociability and its territories – Places and urban public spaces). *Architecture et comportement* 4(2): 111–132.
- Lacueille J., 2000. L'attachement à la marque: proposition d'une échelle de mesure (Attachment to the brand: Proposal for a measurement scale). *Recherche et Applications en Marketing (French edition)* 15(4): 61–77.
- Lemoine J., 2004. Magasins d'atmosphère: quelles évolutions et quelles perspectives d'avenir? (Atmosphere stores: What developments and future prospects?) *Revue Française du marketing* 198(3/5): 107.
- Lemoine J., 2005. L'atmosphère du point de vente comme variable stratégique commerciale: bilan et perspectives

- (The atmosphere of the point of sale as a strategic commercial variable: Assessment and prospects). *Décisions Marketing* (39) 79–82.
- Lichtlé M., Plichon V., 2005. La diversité des états affectifs dans un point de vente (The atmosphere of the point of sale as a strategic commercial variable: Assessment and prospects). *Décisions Marketing* (39) 33–42.
- Lichtlé M., Plichon V., 2014. Les émotions ressenties dans un point de vente: Proposition d'une échelle de mesure (Emotions experienced in a point of sale: Proposal for a measurement scale). *Recherche et Applications en Marketing* 29(1): 3–26.
- Likert R., 1932. A technique for the measurement of attitudes. *Archives of Psychology*, 22140, 55.
- Luxembourg C., Messaoudi D., 2016. Projet de recherche-action à Gennevilliers: «La ville côté femmes» (Action-research project in Gennevilliers: 'The city on the women's side'). *Recherches féministes* 29(1): 129–146.
- Mayer T., 1989. Consensus and invisibility: The representation of women in human geography textbooks. *The Professional Geographer* 41(4): 397–409.
- McCown F., 2014. *Le modèle de ségrégation de Schelling* (Schelling's model). Online: <http://nifty.stanford.edu/2014/mccown-schelling-model-segregation> (accessed: 15 February 2021).
- McKnight P., Najab J., 2010. Mann-Whitney U Test. *The Corsini Encyclopedia of Psychology* 1–1.
- Moghadam S., Rafieian M., 2019. What did urban studies do for women? A systematic review of 40 years of research. *Habitat International* 92: 102047. DOI 10.1016/j.habitatint.2019.102047.
- Monk J., Hanson S., 1982. On not excluding half of the human in human geography. *The Professional Geographer* 34(1): 11–23.
- Moraldó D., 2014. Raewyn Connell, Masculinités. Enjeux sociaux de l'hégémonie (Raewyn Connell, Male. Social stakes of hegemony). *Lectures [En ligne], Les comptes rendus*. Online: <http://journals.openedition.org/lectures/13753> (accessed: 16 March 2020).
- Premack D., Woodruff G., 1978. Does the chimpanzee have a theory of mind? *Behavioral and Brain Sciences* 1(4): 515–526.
- Rahmani L., 2020. Le rôle expérientiel des usagers dans la fabrique de l'immatérialité des places publiques comme modèle d'équations structurelles. (The experiential role of users in the making of the intangible public spaces as structural equations modelling). *Doctoral dissertation in science*: Ecole Polytechnique d'Architecture et d'Urbanisme (E.P.A.U), El Harrach, Alger, Algeria.
- Rahmani L., Messaoudene M., 2019. The role of a positive spirit in the attractiveness, sociability and success of a public place. *Quaestiones Geographicae* 38(4): 49–62.
- Rémy N., 2004. Ambiances sonores en gare: de la mesure acoustique à la mesure immergée (Sound atmospheres in railway stations: From acoustic measurement to immersed measurement). Amphoux, Pascal; Thibaud, Jean-Paul; Chelkoff, Grégoire. *Ambiances en débats, A la croisée*, pp.207–215, 2004, Ambiances, ambiance. halshs-00087817
- Rieucou J., 2012. La promenade publique géosymbole de l'urbanité espagnole. La Rambla Nova de Tarragone (The geosymbolic public promenade of the Spanish urbanity. The Rambla Nova of Tarragona). *EchoGéo* 22. DOI 10.4000/echogeo.13252
- Ruel S., sine die. Filles et garçons à l'heure de la récréation: la cour de récréation, lieu de construction des identifications sexuées (Girls and boys at playtime: The playground, the place where gendered identifications are constructed).
- Ruxton G., 2006. The unequal variance t-test is an underused alternative to Student's t-test and the Mann-Whitney U test. *Behavioral Ecology* 17(4): 688–690.
- Schelling T., 1971. Dynamic models of segregation. *Journal of Mathematical Sociology* 1(2): 143–186. DOI 10.1080/0022250X.1971.9989794
- Schmitt B., 1999. Experiential marketing. *Journal of Marketing Management* 15(1–3): 53–67.
- Sharma R., 2020. Perceptions of harassment and safety among women in urban public space. *Studies in Indian Place Names* 40(3): 405–416.
- Tansey O., 2007. Process tracing and elite interviewing: A case for non-probability sampling. *PS: Political Science & Politics* 40(4): 765–772.
- Terlinden U., 2002. *Räumliche Definitionsmacht und weibliche Überschreitungen. Öffentlichkeit, Privatheit und Geschlechterdifferenzierung im städtischen Raum*, na.
- Terlinden U., 2003. "Public Man" and "Private Woman": Discourse and practice in western societies. In: Terlinden D.U. (ed.), *City and gender*. VS Verlag für Sozialwissenschaften, Wiesbaden: 41–56.
- Thibaud J., 2002. L'horizon des ambiances urbaines (The horizon of urban atmospheres). *Communications* 73: 185–201.
- Vinković D., Kirman A., 2006. A physical analogue of the Schelling model. *Proceedings of the National Academy of Sciences* 103(51): 19261–19265.

## Annex

Table A. Questionnaire on the experiential of Algerian public places (English version).

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Item1	I find that this place is good to sit and have coffee or tea					
Item2	I intend to come back to this place					
Item3	I feel attracted to this place					
Item4	I feel relaxed when I am in this place					
Item5	I like being in this place with people I like					
Item6	I find that the shape of this space is suitable					
Item7	I feel safe in this space					
Item8	I feel free in this place					
Item9	My presence in this place gives me a pleasant feeling					
Item10	I find the interaction between the users of this place wonderful					
Item11	I like the colours of this place					
Item12	I think the view from this square is nice					
Item13	I feel joy when I am in this square					
Item14	This square is a landmark for me					
Item15	I often come into contact with people I don't know here in this square					
Item16	I find that the coating of the ground of this place is suitable					
Item17	I spend a lot of time in this place					
Item18	I am happy that we have such a place					

Source: authors.

Table B. Handling of the questionnaire.

Cities	Questionnaires handed out	Questionnaires returned	Incomplete Questionnaires	Questionnaires used in analysis	Questionnaires not collected
Ghardaïa	150	98	12	86	52
	100%	65.33%	8.00%	57.33%	34.67%
Blida	220	201	21	180	19
	100%	91.36%	9.55%	81.82%	8.64%
Medea	198	110	13	97	88
	100%	55.56%	6.57%	48.99%	44.44%

Source: authors.