

THE ROLE OF A POSITIVE SPIRIT IN THE ATTRACTIVENESS, SOCIABILITY AND SUCCESS OF A PUBLIC PLACE

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ABSTRACT: The objective of this article is to highlight the role of the spirit as an intangible component in the attractiveness, conviviality and success of public places. The comparative study, which covers two public places having the same typo-morphology and sharing the same geographical and sociocultural context, aims to measure the spirits of these two places. The study is based on a theoretical conceptualisation and quantitative analysis of data collected using a measurement tool having satisfactory psychometric qualities. The two main statistical techniques employed are the relative importance index (RII) and the T-test. The results of the study show that the valence¹ of the spirit affects the attractiveness, the conviviality and the success of public places.

KEY WORDS: public places, spirit, cognition, emotion, atmosphere

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Introduction

For a long time, architects, urbanists, scene makers and administrators have been interested in the material component to address the challenge of fulfilling the requirement for attractiveness, conviviality, sociability and success of public places (Whyte 1980), and some have even become masters and experts of the material form. On the other hand, the intangible component has not drawn much attention despite the good will of some masters like Louis Khan who made the materials tell the stories of his projects (Garcelon

et al. 2012). However, since the ratification of the Convention for the Safeguarding of the Intangible Cultural Heritage in 2003 (Brumann 2013; Turgeon 2010) the cultural heritage has enjoyed the same recognition as the material one (Turgeon 2010).

The intangible component of public places refers to two phenomena: the ambiance (atmosphere) and the spirit.

In contrast to the phenomenon of atmosphere, that of the spirit has remained the poor cousin of the intangible components. Indeed, most researches on the architectural and urban spirit are

¹ Kurt Lewin was one of the first to use the word 'valence'. This is in a way synonymous with the value of psychic force with a positive or negative polarity and a degree of high, low or neutral intensity (Rainio 2009).

generally conceptual, theoretical, philosophical and educational (Norberg-Schulz 1981; Brochot, La Soudière 2010; Joly, Turgeon 2010). To the best of our knowledge, empirical studies on the subject are scarce and even more so for those interested in the quantitative measure of the spirit. Hence, the interest in exploring the subject.

In this paper, we are interested in the measurement of the valence of the spirit in public places and its contribution to rendering a place attractive, convivial and successful. The question then is how to measure the spirit of public places? What impact does the spirit have on the attraction, interactivity, conviviality and sociability of public places? What makes one place more appropriate than another?

This study's objective is to measure the spirit, to verify the hypothesis that the spirit of a public place makes it more attractive, whereas a negative spirit produces the opposite effect.

The empirical analysis relies on three empirical techniques: the first one is qualitative (observation grid), another two are quantitative in nature: one is descriptive statistics (RII index of relative importance) and the other is inferential statistics (T-test). The latter was conducted in three stages: first, the spirit of the place was compared, then the cognitive spirit and finally the emotional spirit.

In addition, to verify our hypotheses and collect data, we selected two public places as case studies: Ghardaïa's market place and Metlili's August 20 place.

What is the spirit of a public place?

The answer to this question will allow us to operationalise the spirit of a public place. To achieve this, we rely on the 'theory of the spirit' and more particularly on the works of Premack and Woodruff and that of Duval et al., which draw on neuropsychology. In their theoretical conceptualisation, Premack and Woodruff think that "an individual has a theory of the spirit if he attributes mental states to himself and to others" (1978) and if he is able to understand them (Duval et al. 2011). In other words, there is a form of psychological projection on the considered object.

This capacity of inference, attribution and deduction of mental states can include even the

spirits of public places. These are affected by their current users; the expression of genius or spirit of the place refers to the human spirit that lies in it or haunts it according to Turgeon (2008).

Mental states refer to the cognitive and affective states that are essentially related to the emotional life. Thus, we can easily understand why, according to this theory, the spirit has two different natures: cognitive and affective. This distinction has driven some authors to differentiate between two representations of two typologies in the theory of the spirit (Duval et al. 2011). The first is characterised by its coldness because it refers to thoughts and the second by its warmth since it is associated with emotions (Coricelli 2005).

Moreover, the spirit of a public place can also be apprehended by the theory of the spirit of the place or the genius loci developed by Norberg-Schulz (1981). In his works, this architect philosopher very often combines the term 'genius of the place' to his 'atmosphere' which results in some confusion.

To differentiate between atmosphere and spirit, we employ two concepts: the first concept is that of sensorial marketing and relational marketing, by which two types of atmosphere are defined (Lemoine 2003): the sensorial (Kotler 1973) and the relational (Bitner 1992; Daucé, Rieunier 2002); whereas the second concept is based on psychology in which two types of spirits are defined: cognitive and emotional. However, in the architectural and urban literature, the confusion between the two is glaring.

The spirit of the place is defined as being "a rational dynamic between the material elements (sites, landscapes, buildings, objects) and intangible (memories, stories, rituals, festivals, expertise) physical and spiritual, that produce and generate some sense, some value, some emotion and some mystery" (Turgeon 2008). Somehow, we understand from this that the spirit designates the materiality and the immateriality of the place, while knowing that the suffix 'ity' added to a name does not refer to its material entity, but to its state, to its characteristic features (Dal 1997) and to its way of being (Grabar et al. 2006).

Furthermore, the International Council on Monuments and Sites (ICOMOS) defines the spirit of the place according to its operative acceptance as being "the set of the material elements that give meaning, value and emotion to

the place" (Amendoeira et al. 2008). Thus, we can conclude that these two last definitions agree well with that of the 'theory of the spirit'.

Besides, etymologically, the term genius stems from the word 'genereginere', which means 'to generate', 'engender' or 'give birth' to an idea, to a thought, to a knowledge, to a belief, to a feeling, or to natural phenomena (atmosphere) or supernatural, not to say 'Genius' by summoning a divinity (Butor, Calle-Gruber 2007). According to Berryman (2005), the genius also takes on a meaning of the place that results from a cognitive and affective experience. This shows that the notion of genius or spirit of the place agrees well with the theory of the spirit in neuropsychology.

To evaluate the spirit of a public place, we need to measure both its cognitive state and its affective state (emotional); we must first comprehend their cognitive spaces (Cauvin 1999) and at least their emotional spaces (Kaufmann 1999). It is worth mentioning here that the emotion (the most affective reaction) is considered as being part of the seven categories of the affect. The remaining categories relate to 'feeling', 'mood', 'temperament', 'preference', 'attitude', 'appreciation' (the most cognitive of these reactions) (Lichtlé, Plichon 2005).

In this study, we limit ourselves to the emotional space, because when it comes to emotion, the effect results from the interaction of the users with their public places. Thus, when it comes to the other types of affect, the expressed feeling can be induced by something else that has no relationship with these places as locations.

Today, with new advances in neuroscience, cognition and emotion are considered as intimately linked (Lichtlé, Plichon 2014). Thanks to brain imaging techniques, it is now understood that everything takes place in the central nervous system corresponding to the brain and spinal cord (Myers 2004).

The theory of emotion

More than a hundred and fifty theories of emotion have been developed since the 19th century (Gardiner et al. 1937/1970). This number not only gives a hint of the difficulty to comprehend them all, but also reveals the complexity of this concept. However, Kemper (1987 in Derbaix,

Pham 1989) classified them according to seven approaches: evolutionist, related to the function of adaptation; neural because the primary emotions are attributed to some neural circuits; psychoanalytic based on Freudian concepts; automatic, since they follow the activation of the peripheral nervous system; empirical classification, for it aims to isolate at the outset the subjective verbal relationships of emotions; centralisation in the development of emotions in babies and children; and finally the approach based on facial expressions.

Thamm (2006), on the other hand, proposes three types of approaches: the labelling approaches, the psycho-revolutionary approaches and the socio-revolutionary approaches. The labelling approaches comprise two approaches: The 'prototypical' approach and the 'dimensional' approach. The 'prototypical' approach, also called 'discrete perspective' is based on the conceptualisation of emotions as being "discrete categories and phenomenologically distinct" (Lichtlé, Plichon 2014). This approach considers two types of emotions: primary or fundamental emotions varying according to the researchers from 7 to 15 emotions (Izard 1977; Plutchik 1980; Tomkins 1980; Ekman 1982); and secondary emotions, complex or mixed, resulting, according to Plutchik (1980), from the combination of emotions of the first type, exactly as primary colours mix to form new colours.

However, the dimensional approach, also known as the 'dimensional perspective', "suggests that to better understand the impact of emotions, it is necessary to regroup them in a number of underlying dimensions" (Lichtlé, Plichon 2014). Thus, Osgood and Suci (1955) as well as Russell (1980) describe emotions as the variation of two dimensions. The first is that of the 'valence/evaluation' expressed on the level of feeling, of well-being or of degrees of satisfaction 'positive or negative'. The second dimension is that of 'activation/arousal' expressed in the context of physiological, physical and mental activity in terms of 'high or low' as illustrated on the abscissa in Fig. 1.

What emerges from the labelling approach is that emotion is "a multidimensional construct of which the principal dimensions are the intensity, the polarity (the direction), the content" and the consciousness (Derbaix, Pham 1989).

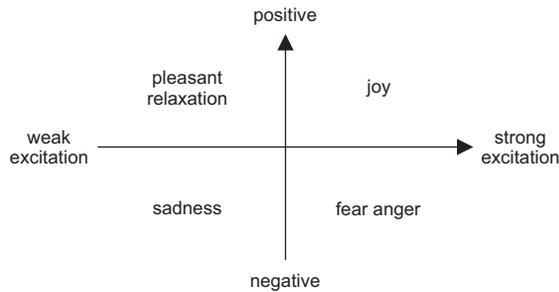


Fig. 1. The two dimensions of emotions.
Source: Myers 2004.

In the framework of our study, we opted for measures of the subjective experiences because of their reduced cost and their ability to be conducted on large samples (Lichtlé, Plichon 2014). Despite being commonly used in marketing (Bagozzi et al. 1999), these measures suffer from some inconveniences linked, on the one hand, to the difficulty of understanding the meaning of the proposed words (Lichtlé, Plichon 2005), and on the other, to the validity and reliability of the scales of the survey (Lichtlé, Plichon 2014).

The theory of cognition

Baudouin and Tiberghien (2007) define cognition as being "the mind" designating "the function that produces the knowing" and thus whatever its nature: intelligible, sensitive, spiritual, psychological or moral (ethical). Therefore, in this first definition, the intelligible knowledge manifests itself: either by the «formation of a concept in the mind [by] the abstraction and the generalization» (Robert 2005) through the understanding and the representation, that is, by reasoning and interpretation. The sensitive knowledge, on the other hand, reveals itself in the form of impressions, of sensations through perception. The spiritual knowledge is expressed through established ideas and beliefs. However, the knowledge or an understanding can be moral when it "concerns the mores, custom [of a society, of an individual] relative to 'good and evil'" (Robert 2005).

Therefore, the word 'cognition' corresponds in the human being to a "functional product of the activity of the brain" (Baudouin, Tiberghien 2007) whether it be perception, attention, judgement, imagination, memory (the souvenir) or representation. These six last activities are

considered part of the main functions of the mind and the key concepts of cognition.

Today, cognitivism influenced by the neuroscience is undergoing a revolution thanks to Connectionism. The neuroscience assumes that the brain receives information from the environment via the body and process them via a network of neurones. In other words, what is considered as spirit and mental processes are merely biological. Indeed, without the body, there would be no spirit, no thought, no mood and no mental state (Steiner 2005). Consequently, it can be affirmed that without the immersion of the body, without the stimulation of the senses by the environment, without the sensitive experience in situ, there would be no cognition.

The spirit of the public place: Method and measurement

Case study

From these premises, it can be concluded that the spirit of a public place can only be approached by the body, the thought, the mental processes (sensation, perception, attention, memorisation, reasoning, representation, etc.), and the sensitive experience of its users. The concepts that we have just developed have allowed us to define the two dimensions of the spirit (cognition and emotion), which, in turn, will permit to evaluate the role of the spirit in the attractiveness and the conviviality of public places. For comparative purposes, two places were selected: the market place of Ghardaïa and the place of August 20 in Metlili, both located in the Wilaya (province) of Ghardaïa.

The city of Ghardaïa is one of the five cities of the M'Zab valley. It is the capital of the province, 481 km to the south of Algiers. Located 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 warm desert climate. The city of Ghardaïa has a population of 93,423 (Advercity, 2019a).

The M'Zab valley, which has been listed as a world heritage site by Unesco, comprises five cities called Ksour (fortified villages). The city has conserved practically the same customs and traditions and the same building techniques since the 11th century.

On the other hand, the city of Metlili is a municipality in the Wilaya (province) of Ghardaïa, located 504 km south of Algiers and 40 km south of Ghardaïa, in the M'zab valley. Located in the heart of the Algerian Sahara (32°28'60" N, 3°40'60" E) at an altitude of 495 m, it has the same dry and warm desert climate. It has a population of 40,576 (Advercity, 2019b).

The market place of Ghardaïa

Founded in 1884, the market place is a kind of convex quadrilateral, covering an area of 3,019.71 square meters. It is surrounded by galleries with semi-circular arcades, with shops and stores all along, topped with a second floor. The place constitutes the focal point of about nine alleys, with their nearest parts fulfilling business functions. The place is paved with stones.



Fig. 2. The market place of Ghardaïa.
Source: Google Earth.



Fig. 3. The market place of Ghardaïa taken around the end of the afternoon.
Source: Rahmani, May 2018.



Fig. 4. The market place of Ghardaïa taken around noon.
Source: Rahmani, May 2018.

The place of August 20 in Metlili

More recent, the place of August 20 of Metlili was built in the early 2000s, with the same quadrilateral convex form. It spreads over an area of 2,561.88 square meters and is surrounded by covered galleries with semi-circular arcades along which there are shops and stores. Above the latter there is a floor with residential dwellings. Unlawful additional constructions have been attached to some parts of the second floor giving it an unfinished and unpleasant aspect. The ground remains unpaved.

The two places present several similarities from the viewpoint of scale, configuration, in addition to the architectural and urban typology. Although both places are parts of the same geographical and sociocultural context, they are not, however, appropriated in the same manner. The market place of Ghardaïa draws a lot more



Fig. 5. Place of August 20 of Metlili.
Source: Google Earth.



Fig. 6. Place of August 20 of Metlili.
Source: Rahmani, May 2018.



Fig. 7. View of the passage and gallery with semi-circular arcades.
Source: Rahmani, May 2018.



Fig. 8. Metlili's August 20 place taken in the afternoon.
Source: Rahmani, May 2018.

people and seems to favour more interactions than that of Metlili. If the two places share the same material life, their intangible form is however different (Cocteau, Chanel 1973). The objective of this article consists of evaluating this second intangible component. This implies measuring the valence of the spirit of each place, in order to validate or to invalidate our hypothesis, which attributes the gap in attractiveness, conviviality and success between the two places to differences in their spirits. We presume that the spirit of Ghardaïa's market place is more positive whereas that of Metlili's place is negative.

Method: sampling and measures

A *non-probability sampling* of a size of 49 users² was set up: 25 participants for the place of Metlili and 24 for the market place of Ghardaïa. The small size of the sample is justified by the reduced number of people present in the place of Metlili. A sample of identical size permits avoiding bias. The demographic and social structure is shown in Table 1.

In the absence of a scale specifically designed to measure the spirit of Algerian public places, their emotional and cognitive aspects, we have selected a measurement tool based on the experiential materiality and immateriality. This tool is a questionnaire of the Likert-type scale (Lombart 2004; Aurier, Evrard 1998; Lichtlé, Plichon 2014) designed by the present authors, in the context of a doctoral thesis in progress, based on the experiential paradigm of Holbrook and Hirschman (1982) and modular of Schmitt (1999). We have verified its reliability and validity according to the proposed approach in the paradigm of Churchill (1979) for the development of better measures of marketing constructs.

Overall, the questionnaire is composed of five dimensions: behavioural, relational, sensorial, emotional and cognitive, and includes 32 items. For the behavioural dimension, we have used the behaviour of approaching, of avoiding or of escape (Lemoine 2004), the positive or negative civic behaviour, and the engagement in using the place for sitting or other purposes. For the relational dimension, we have retained

² The users are of both genders and are aged between 17 and 65.

Table 1. Sociodemographic structure of the sample.

Variables by social class		Number (frequency)	Percentage (%)	Number (frequency)	Percentage (%)
		Metlili		Gharđaia	
1. Gender	male	25	100	19	79.17
	female ¹	0	0	5	20.83
2. Age group	teenager	6	24	2	83.33
	adult	19	76	22	91.17
3. Employment status	jobless/retired	4	16	5	20.83
	student	9	36	4	16.67
	employee/employer	12	48	15	62.50
4. Education level	primary	0	0	0	0
	middle	3	12	6	25
	secondary	10	40	5	20.83
	higher	12	48	13	54.17
5. Marital status	married	7	28	19	79.17
	single	18	72	5	20.83
6. Users or non.users	non-user	6	24	12	50
	user	19	76	12	50
7. Accompanied or unaccompanied	accompanied	18	72	17	71
	unaccompanied	7	28	7	29

¹Women rarely use the public space of Metlili city.

Source: authors.

Table 2. Criteria and indicators constituting the experiential dimensions.

Dimensions	Criteria	Indicators
Behavioural experiential	<ul style="list-style-type: none"> - behaviour of approach - behaviour of escape - positive civic behaviour - negative civic behaviour - engagement in a stay activity 	<ul style="list-style-type: none"> - attractively, time passed in the place - suppression, avoidance - conviviality, good use - bad use - different stay activities, opportunity of buy and sell, different postures
Relational experiential	<ul style="list-style-type: none"> - intimate relationship - personal relationship - social relationship - public relationship - attachment and faithfulness 	<ul style="list-style-type: none"> - romantic outing or with family members - appointment with friends or colleagues - interaction of the users - communication and discussion between unknown people - attachment and faithfulness to the site
Experiential of sensorial atmospheres	<ul style="list-style-type: none"> - visual atmosphere - sound atmosphere - tactile atmosphere - olfactory atmosphere - gustatory atmosphere 	<ul style="list-style-type: none"> - lights, colours, matter, shapes, movement, crowd - sound, noise - humidity, textures, purity of the air, freshness of the air - odours - tasting of sweets, of drinks etc.
Emotional experiential	<ul style="list-style-type: none"> - the well being - the escape - the pleasure - the nervousness - the relaxation - the freedom or the oppression 	<ul style="list-style-type: none"> - joy - pleasure - pleasant sensations - relaxation/stress - security - feeling of being free or controlled
Cognitive experiential	<ul style="list-style-type: none"> - expectation - intention - evaluation - memorisation - attention 	<ul style="list-style-type: none"> - gap between the expected experience and the lived experience - willingness to comeback - satisfaction, judgement of value - memory and nostalgia - landmark

Source: authors.

the intimate, personal, social and public relations (Hall 1966, 1971) and the attachment (Lacœuilhe 2000). To measure the dimension of the sensorial environment (Augoyard 2008; Thibaud 2002), we focused on features which are perceived by the five senses (Daucé, Rieunier 2002; Lemoine 2005; Bonnefont, Erraja 2006), i.e. visual, tactile and auditory (Rémy 2004), olfactory (Balez 2001) and gustatory. In order to describe the cognitive dimension, focus was put on the intention, attention, evaluation and the memory of the users of the public place. To determine the emotional dimension, we have drawn inspiration from the works of Lichtlé and Plichon (2005, 2014), namely the well-being (the fullness), the escape, the pleasure, the nervousness, the relaxation and freedom or the oppression (Table 2).

In order not to bias the results, and in accordance with the best practices in the matter, the respondents were asked to answer all 32 items of the questionnaire (Table 3), including all 5 dimensions. However, in the calculations only 12 items belonging to the cognitive and emotional dimensions were taken into account; the sensorial, relational and behavioural dimension were ignored.

To calculate the valence and the intensity of the spirits: of the place, of the cognitive space, and of the emotional space of the two investigated areas; we proposed five alternatives for each item of the survey: 1 represents the weakest value of the item and 5 the strongest value. "R" means the scoring for the item was inversely performed.

Table 3. The valence scores for the three spirits.

Cognitive spirit (4 items)	Valence of the spirit
$4 \leq \text{mean} < 8$	very negative
$8 \leq \text{mean} < 12$	negative
$12 \leq \text{mean} < 16$	positive
$16 \leq \text{mean} < 20$	very positive
Emotional spirit (8 items)	Valence of the spirit
$8 \leq \text{mean} < 16$	very negative
$16 \leq \text{mean} < 24$	negative
$24 \leq \text{mean} < 32$	positive
$32 \leq \text{mean} < 40$	very positive
Spirit of the place (12 items)	Valence of the spirit
$12 \leq \text{mean} < 24$	very negative
$24 \leq \text{mean} < 36$	negative
$36 \leq \text{mean} < 48$	positive
$48 \leq \text{mean} < 60$	very positive

Source: authors.

The valence scores for the three spirits are summarised in Table 4.

The survey questionnaire concerning the experiential tools was handed out to users present on the both sites of the study without subtracting the items related to behavioural, relational and sensorial dimensions.

Table 4. Items of the different dimensions of the experiential tool of public places.

Behavioural dimension
- I find that this place is good to sit and have coffee.
- I feel attracted to this place.
- The place offers buying and selling opportunities.
- I sometimes throw trash on the ground in this place.
- I spend a lot of time in this place.
Relational dimension
- I can easily find a place to sit here.
- I like being in this place with loved ones.
- I find the interaction between the users of this place wonderful.
- I seldom interact with strangers in this place.
- I sometimes arrange to meet friends and colleagues in this place.
Sensorial dimension
- I find this place unbearably loud.
- I love the movement in this place.
- I find that the shape of this place corresponds to it. I find that the place has the right shape.
- I smell trash in this place.
- I find the air pure and fresh in this place.
- I like the colours of this place.
- I think the view is beautiful from here.
- I am attracted by the good smells that come out of this place.
- I find that the coating of the ground of this place is suitable.
Emotional dimension
- I feel pleasure when I come to this place.
- I feel well relaxed when I am in this place.
- I feel safe in this place.
- I feel free in this place.
- My presence in this place arouses a good feeling in me.
- I feel joy when I am in this place.
- I feel choked in this place.
- I am happy that we have such a place.
Cognitive dimension
- I intend to come back to this place.
- I have good memories in this place.
- Many things attract my attention in this place.
- This place is a landmark for me.
Global satisfaction
- I am satisfied with the place.

Source: authors.

The data were analysed using SPSS 22 software. Descriptive tests include means, standard deviations and percentages. T-tests were used to compare means.

Results and analysis

To objectively assess the attractiveness, sociability and success of Ghardaïa's market place compared to those of Metlili's place, which is completely deserted, unattractive and unsuccessful, we used an observation grid based on the eight (8) criteria developed by William H. Whyte (1980) (Table 5).

The value of the score 'Sc' is between 0 and 1. If 'Sc ≤ 0.4', the place is not successful and not attractive and if '0.4 ≤ Sc ≤ 1', the place is successful. As a result, we can deduce that Ghardaïa's market place is successful, but Metlili's place of August 20 is not.

To analyse the questionnaire and assess the significance of the dimensions related to the spirits of the public places examined in this study, we calculate the "Relative Importance Index" coefficient (Waris et al. 2014).

The method of Relative Importance Index was used to determine the relative importance of the three dimensions of the mind. The Relative Importance Index (RII) is a non-parametric technique widely used by researchers to analyse structured questionnaire responses for data involving the ordinal measurement of attitudes (Kometa et al. 1994).

Equation (1) shows the formula used to determine the Relative Importance Index (Chan, Kumaraswamy 1997):

$$RII = \frac{\sum w}{A \times N} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5 \times N} \quad (1),$$

where: w = weight given to each factor by respondents and ranges from 1 to 5 on the Likert scale, '1' is 'not significant' and '5' is 'extremely significant'.

A is the highest weight and N the total number of respondents. The RII value is between 0 and 1, not including 0.

This shows that the higher the RII, the larger the dimension of the spirit, and vice versa. The comparison of RII with the corresponding level of significance is measured by the transformation matrix proposed by Chen and al. (2010). They hold that the values of the relative index are transformed into five important levels: high (H) ($0.8 \leq RI \leq 1$), high-medium (H-M) ($0.6 \leq RI < 0.8$), medium (M) ($0.4 \leq RI < 0.6$), medium-low (M-L) ($0.2 \leq RI < 0.4$) and low (L) ($0 \leq RI < 0.2$).

Table 6 presents the relative importance index (RII) of the dimensions of the spirit of the place with its different types for each public place, as well as the corresponding ranking and their level of significance.

As can be seen in Table 6, three dimensions with 'high (H)' significance levels and 'very positive' qualities were assigned to Ghardaïa's market place. They include the emotional spirit, the cognitive spirit and the place spirit dimensions. One (1) dimension recorded a 'high-medium (H-M)' significance level and a 'positive' quality for the place of August 20. This concerns the cognitive spirit dimension. Finally, two (2) dimensions, related to the emotional spirit and the spirit of the place, recorded a 'medium (M)' level of significance and a 'negative' quality for the place of August 20.

Table 5. Observation grid of attractiveness and social life.

Criteria for attractiveness, sociability and success of the places	Ghardaïa Marketplace	Place of August 20 in Metlili
Self-congestion (the crowd attracts the crowd) (1980: 19-23)	1	0
Gender differences	1	0
Sittable space	1	1
The urban stay and the seating (1980: 24-39)	1	0
The role of natural elements (sun, wind, trees, and water) (1980: 40-49)	1	1
The food (1980: 50-53)	1	0
The street (1980: 54-59)	1	1
Triangulation (the event atmosphere) (1980: 94-101)	1	0
Score (S)	8/8 = 1.00	3/8 = 0.37

Source: authors (inspired by Whyte 1980).

Therefore, although the cognitive spirit of Metlili's place was recorded as positive with a RII high-medium = 0.61, its spirit was negative with a medium RII = 0.57. This is attributable to its emotional spirit which turned out to be negative with a medium RII = 0.54. By contrast, the spirit of Ghardaïa's market place proved to be very positive, similar to the emotional and cognitive spirits. Thus, we can conclude that the spirit of Ghardaïa's market place is of higher quality compared to that of August 20 place.

Nevertheless, to assess the significance of these results, an inferential technique (T-Test) was used. As expected, the results show that the spirit of the market place of Ghardaïa is better perceived compared to the place of August 20. These results demonstrate clearly that the spirit of the market place of Ghardaïa is different to that of the place of August 20. With a threshold of 0.01, the test 't' reveals a significant difference between the mean scores of the two public places despite typo-morphological similarities,

Table 6. Rank of spirits dimensions for public spaces.

Places	Dimensions	No. of items	N	Relative Importance Index	Ranking by dimensions	Significance level of the dimensions	Valence of dimensions
Market Place of Ghardaïa	emotional spirit	8	24	0.86	1	high (H)	very positive
	cognitive spirit	4	24	0.83	3	high (H)	very positive
	spirit of space	12	14	0.85	2	high (H)	very positive
Place of August 20 Metlili	emotional spirit	8	25	0.54	6	medium (M)	negative
	cognitive spirit	4	25	0.61	4	high-medium (H-M)	positive
	spirit of space	12	25	0.57	5	medium (M)	negative

Source: authors.

Table 7. The difference between the score means of the spirits of Market place of Ghardaïa and the place of August 20 of Metlili.

	N	Means	Standard deviations	ddl	t	Significance (P-value)
Spirit of the place of the market of Ghardaïa	24	50.92	4.942	47	6.464	0.01
Spirit of the place of August 20 of Metlili	25	34.20	11.906			

$P < 0.05$ is statistically significant.

Source: authors.

Table 8. Comparison between the means of cognitive spirits of the two public spaces.

	N	Means	Standard deviations	ddl	t	Significance (P-value)
Cognitive spirit of the place of the market of Ghardaïa	24	16.67	2.353	47	4.025	0.01
Cognitive spirit of the place of August 20 of Metlili	25	12.60	4.444			

$P < 0.05$ is statistically significant.

Source: authors.

Table 9. Comparison between the means of the emotional spirits of the two public spaces.

	N	Scores	Standard deviation	ddl	t	Significance (P-value)
Emotional spirit of the place of the market of Ghardaïa	24	34.25	4.183	47	6.499	0.01
Emotional spirit of the place of August 20 of Metlili	25	21.60	8.742			

$P < 0.05$ is statistically significant.

Source: authors.

$t(47) = 6.464, p < 0.01$. The users of the market place of Ghardaïa appreciate its spirit ($M=50.92, SD = 4.942$). Conversely, the users of the place of August 20 have lower perception of the spirit of this space ($M = 34.20, SD = 11.906$). As shown in Table 7, the difference is significant; the spirit of the place of Ghardaïa obtained a very positive valence whereas that of the place of August 20 obtained a negative valence.

Furthermore, we find significant differences between the cognitive and the emotional spirits of these two public places. Because, on the level of the cognitive spirit, with an alpha threshold of 0.01, t -test reveals a significant difference between the cognitive scores, $t(47)=4.025, p<0.01$. The users of the place of Ghardaïa perceive the cognitive spirit as being very positive ($M=16.67, SD=2.353$) compared to the users of the place of August 20 ($M=12.60, SD=4.444$) (Table 8).

Concerning the emotional spirit, with a 0.01 level, the difference between the means using the t -test is found to be significant emotional scores, $t(47)=6.499, p<0.01$. The users of the place of Ghardaïa consider the emotional spirit as being very positive ($M=34.25, SD=4.183$). On the other hand, the users of the place of August 20 see the emotional spirit as being negative ($M=21.60, SD=8.742$) (Table 9).

Discussion and conclusion

This study was based on experiential marketing (Holbrook, Hirschman 1982) and the psychological sciences, namely the «theory of the mind» (Premack, Woodruff 1978; Duval et al. 2011) to clear up, even though briefly, the confusion between the atmosphere and the spirit of the place. Each of the two concepts is composed of two dimensions. The first is made up of the sensory atmosphere (visual, sound, tactile, olfactory and gustatory); and the relational atmosphere (intimate, personal, social and public). The second consists of the emotional spirit and the cognitive spirit.

Nevertheless, since both public places of Ghardaïa and Metlili have a very similar architectural and urban typology, but have not met with the same success in terms of social attractiveness, hence we assume that the difference lies in their spirits of the place.

Based on the qualitative analysis using the observation grid (Table 1, Whyte 1980), we can objectively confirm the difference in terms of success between these two places; Ghardaïa's market place is clearly more successful with a score of 1 compared to Metlili's August 20 place with a score of 0.37.

In addition, based on quantitative analysis, the result of the Relative Importance Index revealed high levels in favour of the three spirits for Ghardaïa's market place. The emotional spirit, the spirit of the place and the cognitive spirit are ranked first, second and third respectively. Conversely, those of Metlili's August 20 place hold the last three positions in the ranking. Only the cognitive spirit is of high-medium level of significance. The spirit of the place and the emotional spirit recorded medium levels of significance.

Finally, the inferential quantitative analysis of the T -test confirmed the significant difference between the spirits of the two places.

The main objective of this study was to highlight the role the spirit can play in the attractiveness and success of public places. At the end of this investigation, we can confirm our hypothesis that despite architectural and urban similarity, the lack of attractiveness of Metlili's August 20 place is due to its negative spirit whereas Ghardaïa's market place is a success because it has a positive spirit.

Thus, we found that, on the one hand, the cognitive spirit of Ghardaïa's market place is perceived very positively, while that of Metlili's August 20 place is perceived positively. Furthermore, the emotional spirit of Ghardaïa's market place is felt very positively while that of Metlili's August 20 place is felt negatively. Therefore, we can conclude that the difference between the spirits of the two public places is affected by the difference in the valence of their cognitive (cognitive spirits) and emotional (emotional spirits) spaces. However, the results show that the gap between the cognitive spirits (cognitive spaces) in the two public places is no greater than that of their emotional spirits (emotional spaces).

However, from a cognitive viewpoint, we assume that this discrepancy is due to the fact that Ghardaïa's market place is historically loaded while Metlili's place was built less than two

decades ago. Moreover, we should bear in mind that Metlili's place was modelled on the architectural style of Ghardaïa's market place. And that the latter was its ideal type. In other words, the August 20 place is an almost identical copy of Ghardaïa's market place. And as we know, the original has more value than the copy. Thus, in the design phase, it is not only necessary to limit oneself to tangible aspects but also to take into account the intangible components.

Furthermore, on the emotional plan, we can see that the discrepancy is wider. Peter Zumthor attributes this difference to the atmosphere of the two public places; he considers that the "atmosphere affects our emotional perception" (2015: 13).

Due to the absence of a similar study, we cannot compare our results with those of other research. However, we can affirm that these empirical results agree well with the theory of the Stimuli-Organism-Response (SOR) model (Russell, Mehrabian 1978). Indeed, if we project our results onto the S.O.R. model, we can deduce that the atmosphere (stimuli) actually acts on the approach or escape behaviour (response) according to the positive or negative spirit of the place (organism).

The objective of this study is twofold: on a theoretical level, it aims to present the paradigmatic theories of the mind and its measurement. And as demonstrated, the experiential tool for public places, built upon the experiential paradigm of Holbrook and Hirschman (1982) and the modules of Schmitt (2010), allows measuring their spirits. On a practical level, it ensures the success of a public place by enabling designers to integrate not intuitively, but formally, the characteristics of the intangible components: the sphere of the spirit and the atmosphere.

Finally, given the limitations imposed by the small size of our samples and the implementation of the verbal scale, the scope of this study and the generalisation of the conclusions must be qualified. The combination of this technique with others is highly desirable. Investigating the spirit of other types of public spaces with this or other methods is undoubtedly highly recommended.

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