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SOUNDSCAPE ANALYSIS AND CONTRIBUTION TO FORMING PLACE IDENTITY AND SATISFACTION OF USERS

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ABSTRACT

This research aims to identify the role of soundscape in forming place identity of urban open spaces in different cultural contexts with similar functions. The study explored Olgunlar street in Ankara, Türkiye; and Al-mutanabi street in Baghdad, Iraq—both are known with selling books. The research focuses on sound sources that are perceived as characteristic of these places by the public. For this purpose, open-ended interviews were conducted in both streets with locals, focusing on sound sources they associate with the area. It was found that the soundscape in both streets is formed by a variety of sound sources—some were directly related to the function and others were not. In Ankara, these sound sources were reported relevant to the street's function and place identity. However, in Baghdad, sound sources were reported as irrelevant, annoying, and masking the street's true identity. The study is expected to highlight the importance of soundscape planning in sonically unexplored region. Furthermore, it emphasizes the significance of soundscape that is created by various activities for ensuring place identity and user satisfaction.

Keywords: *soundscape, place identity, urban open space, cultural differences, user satisfaction*

1. INTRODUCTION

Soundscape is defined as the acoustic environment of a context as perceived, experienced, or understood by

users [1,2]. It emphasizes the perceptual aspects of sound and considering users' background in determining the soundscape quality. Based on the context, the soundscape is formed by a variety of sound sources which are considered important factors that affect the perception of the sonic environment. These sources mainly include natural sounds, human sounds, traffic sounds, and other types of sources [2,3]. They are considered crucial elements in forming the cultural essence of the place through perceiving the daily economic and social activities.

The sound sources of the context are the result of the social and cultural activities that take place there. Accordingly, user perception of the place and its soundscape are influenced. As they experience the sound sources in the context, users may form place identity to the place [4,5]. Accordingly, it is expected that users would reflect their identity in the context when sound sources are characteristic to the place and when they assign meaning to them. However, this evaluation can be either negative or positive, depending on the user perception and satisfaction of the sound sources within the context and whether they are appropriate and/or expected in the place or not.

By having this interrelation between soundscape and place identity, this study attempts to understand the role of sound sources in forming place identity and user satisfaction in two urban open spaces in different cultural contexts. These places are Al-mutanabi Street in Baghdad, Iraq and Olgunlar Street in Ankara, Türkiye. Both streets are known for selling books and expected to attract similar users of intent. The study is exploratory in nature. Thus, it depends on open-ended questions and interviews with locals in both contexts. The questions aim to highlight how users assign meaning and perceive characteristic soundscapes due to the occurring sound sources. Additionally, these questions would inform the

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level of satisfaction users attribute to the context in relation to the relevance of the sound source to the overall soundscape and the function of the place.

2. METHODS

2.1 Sampling and research site

The study took place in two culturally different areas, yet similar in function. The first area is Al-mutanabi street in Baghdad, Iraq. This street is considered a cultural heritage kind of place in the city and dates to the early nineteenth century. It represents the heart of Baghdad's historical region. It is a car-free road with a heritage landmark of Al-shahbandar café, established in 1917. The street is mainly filled with book-selling booths, representing its main function. Additionally, other activities are found such as food and drinks vendors. Behind these booths are stationery and gift shops, bookstores, and printing houses. A small restaurant is also located at the end of the street in the direction of Rashid Street (Figure 1).



Figure 1. Al-mutanabi street zoning plan and photos.

The second area is Olgunlar street in Ankara, Türkiye. Similar to Al-mutanabi, it is a car-free road and filled mainly with booths for selling books on one of its sides and buildings with various activities on the other side. The street has an hotel, coffee shops, and bookstores (Figure 2).



Figure 2. Olgunlar street zoning plan and photos.

The study was conducted at different times of the year. Initially, data were collected from Al-mutanabi Steet on the weekend on April 2022, between 10:30 till 13:30. Olgunlar data were collected on a weekday in July 2022, between 10:00 till 14:00. Choosing the day was the result of an initial observation of the average busiest usage of the places.

2.2 Data collecting and survey

The survey was conducted by using an open-ended questionnaire to understand users' perception of the soundscape and the occurring sound sources. The questionnaire items are presented in Table 1.

Table 1. Questionnaire items and aims

Questionnaire item	Aim of the questions
Socio-demographic data.	Understanding the user profile in the context.
“Are you a visitor, buyer, seller, else?”	Understanding the purpose of use in the context.
“Do you think the sounds are unique in the place?”	Understanding the overall perception of place identity.
“Do you think the sounds are identifiers of the place?”	Understanding the nature of sounds being characteristic, meaningful, or not.
“Which sound sources you think that they form the place's identity?”	-Understanding perceiving the identity of context by sound sources. -Understanding sound source appropriateness in the context.
“Are you satisfied with the overall environment, especially from sound perspective?”	Understanding the overall user satisfaction of the soundscape.



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The questions were reformed; or further questions were added based on the participants' answers. In Al-mutanabi street, 15 participants were interviewed (9 women, 2 men (book buyers), 2 book sellers, 2 food buyers, M age= 32 years). In Olgunlar street, 7 participants were interviewed (2 women, 5 men: 2 book sellers, 1 coffee shop owner, 4 buyers; M age= 34.7 years). The responses were transcribed verbatim, and texts were analyzed through content analysis.

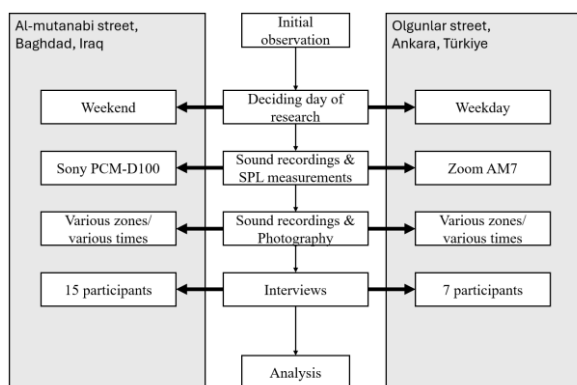


Figure 3. Steps conducted in the two locations for the study.

Initially, the researchers recorded their own observation of the soundscape ensuring involving all the possible occurring sound sources by following the ISO sound classification. The next step involved audio recordings and photography of the area at various times of use. The last step was interviewing the users with randomly selected participants, ensuring they used the space for different purposes—as a seller, buyer, or else. The languages used in interviews were Arabic in Al-mutanabi street and Turkish in Olgunlar street. Some users had difficulty understanding the sound-related questions as they required an explanation of the concept of the soundscape and place identity. The interviews lasted approximately two hours in total (Figure 3).

3. RESULTS

3.1 Al-mutanabi street, Baghdad, Iraq

The data collected from Al-mutanabi street revealed that at zone A (Figure 4), the dominating sound sources were mainly footsteps, people talking, and vendors shouting for their goods (books, food, or drinks). Occasionally, dragged carts from shop owners would occur. Zone B is noticed to be the busiest with sound sources as it has coffee shops, vendors, and sounds of people. Zones A

and B have more book-related activities on both sides and the sounds of sellers and buyers can be heard clearly. Sounds related to bookselling function are mostly identified in this zone. As for zone C, the dominating sound sources were similar to those in B, in addition to sounds from vehicles coming from the main street (Figure 4).

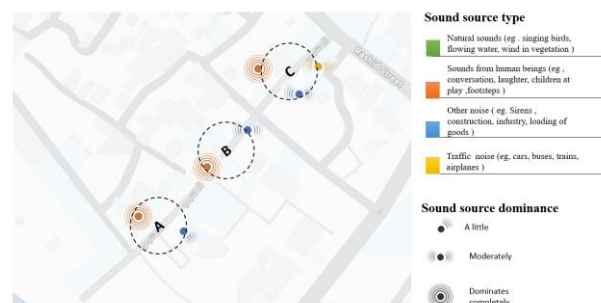


Figure 4. Sound sources distribution and dominance in Al-mutanabi street.

The interviews revealed that some users can recognize the street by hearing terms related to selling books. However, most of them complained about the “chaotic” and “disturbing” sounds that come from vendors. Furthermore, they stated that book-related sounds are not frequent or dominant but rather occasional in comparison to other sources.

“The sounds are loud and not related to the cultural identity of this place”, stated one participant. “I cannot hear the book sellers because of the excessive sounds from elsewhere”, stated another participant. The overall perception of the soundscape as stated by users was found to be general dissatisfaction and irrelevant to the place’s function.

3.2 Olgunlar street, Ankara, Türkiye

The data collected from Olgunlar has revealed that at zone A the dominating sound sources were mainly from vehicles of the main street. Occasionally, dragged carts and bags would occur at that zone from users going towards the hotel and/or other zones. Sounds related to book selling were not clearly identified. At zone B, the dominating sounds were of people talking, people selling, and people buying books. Additionally, birds and trees could be heard clearly in that zone. The zone has book-related activities on both sides and hearing salespeople dealing with costumers as well as calling for their products were clearly heard. Zone C is noticed to be the busiest with sound sources. Having mainly coffee



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shops and connection with other roads, more sounds of people, music, and culinary tools can be heard at that zone, in addition to occasional passing cars (Figure 5).

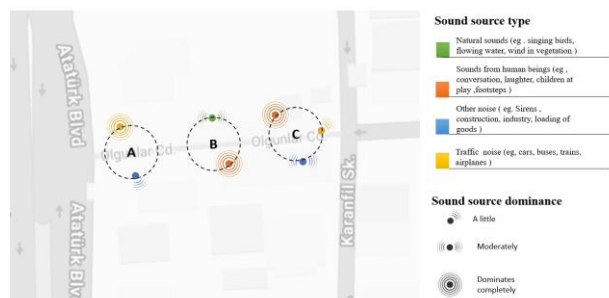


Figure 5. Sound sources distribution and dominance in Olgunlar street.

The interview revealed that most users can recognize the street by hearing terms related to selling books. However, one seller participant stated that these book-related sounds are not frequent or dominant but rather occasional; “Here, most books are for students. If I hear someone calls for schoolbooks, I’ll know I am in Olgunlar”. “It sounds same to me as any other place around here. Actually, here is rather more quiet than other similar streets in the area”, said one participant. Users expressed overall satisfaction of the place soundscape and stated that the sound sources forming the place are “expected”, “normal”, and “quiet”.

Despite receiving answers, most of the participants from both areas needed an explanation of the purpose of the interview and what was meant by soundscape and sound in order to understand the reason why sound was the focus of the interview rather than other cultural or architectural element—“why sound?! There used to be some boys here play music... this is what I know about sound in this street”, stated one participant. “[that] café plays some songs that make sitting here nicer...”, stated another participant. However, after explaining more about sound importance in a place and how it may play a part in forming its identity, their answers were slightly modified. “I immediately think of music, singer, or beautiful voice when sound is asked. Now I understand what you mean, I do not think there is a special sound in this street. It is quiet and normal”, said one participant in Olgunlar.

4. DISCUSSION AND CONCLUSION

This research investigated Al-mutanabi street in Baghdad, Iraq, and Olgunlar street in Ankara, Türkiye, for their similar function and cultural differences that possibly influence the perception of the soundscape. It depended on open-ended questions to acquire users’ overall evaluation of the experienced soundscape—a method that is similarly found in other studies [6,7]. The results showed that both areas had human generated sounds as the dominant sound source type. In Al-mutanabi street, they were perceived as dissatisfactory, whereas in Olgunlar they were reported as part of the context’s identity. The different interpretation given to these sounds can be based on their direct interrelation to the function and history of the place [8].

This suggestion is supported by the fact that Al-mutanabi users expressed their dissatisfaction with the sound sources coming from irrelevant activities in the place, such as vendors. On the contrary, Olgunlar users expressed their satisfaction with the soundscape as sounds were perceived relevant to the function of the place. Thus, users of Olgunlar tend to assign positive place identity bond with place while experiencing meaningful function-related sound sources. Al-mutanabi users, on the other hand, assign a negative place identity to the context. This is in line with another study [9] which found that place identity and place attachment in general are enhanced when sound sources of the activities are related to the context.

Context-related sound sources can be considered as an attraction factor to the place itself, confirming a place identity by emitting characteristic sounds [10]. Otherwise, users may perceive the place negatively and tend to revert from it when the dominant sound is irrelevant to the context, as it is suggested by a study [11].

Olgunlar users may have associated better satisfaction with the place’s soundscape in comparison to Al-mutanabi’s due to the presence of nature sounds. Their presence can enhance the satisfaction of urban open places, as it is stated in other studies [6,12–14]. The function-sound harmony in the street as well may have influenced perceiving rather unwanted sound sources, such as traffic sounds, acceptable and part of the context, which is the opposite case in other studies [14].

This study can be beneficial by highlighting the importance of addressing soundscape concept in a rather unexplored area—i.e. Baghdad, Iraq [15]. Additionally, it sheds light on the importance of accurately locating and planning the zones and accordingly the generated



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activities in urban open spaces in order to ensure user satisfaction [16]. It also highlights the importance of cultural differences when sound-related regulations are discussed. This is due to the fact that cultural differences are usually found as important factor in interpreting the soundscape specifically and user perception of environments generally [6,17].

The study main concluded points are:

1. Function-related sound sources in Olgunlar enhanced place identity and user satisfaction of users.
2. Function-irrelevant sound sources in Al-mutanabi resulted in negative place identity and user satisfaction of users.

This study is beneficial in addressing the importance of planning activities in cultural and public spaces so that the resulting soundscape is ensured satisfactory to users. Furthermore, it denotes the significance of sound source types in forming place identity by experiencing characteristic and meaningful sound types in the context.

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