



Determining Urban Identity of a Historical City from Inhabitants' Perspective: Erzurum, a Case from Asia Minor

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Aims: This study aims to explore the urban identity of Erzurum, which has a rich cultural and historical background dates back to 4000 BC, from the perspective of inhabitants. Additionally, the differences between perceptions about urban identity elements of various inhabitants' groups, categorized in terms of age, gender, education level, being a native of Erzurum, and length of residence in Erzurum, are determined.

Study Design: The research was designed as a case-study and pursued an exploratory research approach.

Place and Duration of Study: The study has been conducted in Erzurum, located in Eastern Anatolia, Turkey. Interviews have been conducted with 268 inhabitants of Erzurum between May and June 2015.

Methodology: Within the context of the study, Erzurum's urban identity is determined through its elements that are commonly classified as topographical properties, climate and flora, elements at settlement level, urban equipment, symbolic elements, socio-cultural properties, and socio-economical properties. The present study has been designed as an exploratory case study in which qualitative and quantitative data collection techniques have been used.

Results: This study, through answering its research questions, reveals that, first, environmental identity elements have more significance than social identity elements; second, natural

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environmental elements as Palandöken Mountain and cold climate, and artificial identity elements as Cumhuriyet Street and the Twin Minaret Madrasa are the most significant identity elements; and, third, differences between the respondents' age and education helps to explain the differences between their perception on urban identity elements, in the case of Erzurum.

Conclusion: This exploratory case study, departing from the idea that urban identity is a social and cultural phenomenon and unique for each individual and society, explored the urban identity elements from the perspective of the inhabitants of Erzurum. In the end, the importance of determining urban identity based on inter-subjectively built consensus to protect the uniqueness of the cities has been highlighted.

Keywords: Perception; urban identity; urban identity's elements; inhabitants; Erzurum; Turkey.

1. INTRODUCTION

Human and space interaction is formed through the human's environmental experience and perception of the environment. Human perceives the environment as an image that has been created in mind. In this line, depending on a society's collective perception of social, physical, and natural elements, urban identity is created. Therefore, departing from the human and space interactions, urban identity could be defined concerning perception, interpretation, and creation of the image of urban space by the individuals subjectively, which is the primary subject of this study.

Urban identity, as a result of interaction between a city and its' inhabitants, is very special for each inhabitant and society. Determined by the individuals' unique experience and quality of interactions between individuals and the environment [1], urban identity can be evaluated from the perspective of two different actor groups as inhabitants and the people visiting the city, such as tourists [2]. On the other hand, no matter in which group, individuals' characteristics affect an urban identity's perception [3]. In other words, individuals' perception of urban identity varies depending on their age, gender, education, personal experiences, and knowledge about the urban space.

Departing from this point, the present study aims to explore the urban identity perception of inhabitants and differences between their perceptions regarding their characteristics such as age, gender, education, etc., in the case of Erzurum. Erzurum, located in the Eastern Anatolia Region, was historically one of the most crucial settlement areas in Asia Minor. Distinctive artificial environmental elements of the city bear the mark of the several civilizations inhabited in the city during its 6000 years' settlement history.

Erzurum has significant identity elements [4], and until this study, researchers have been

conducted focusing on the urban identity of Erzurum. Among them, the researches touch on the issue about their primary research focus as urban transformation and/or urban regeneration [5,6,7]. On the other hand, while a study examines the effects of the surrounding elements on Erzurum's city image [8], research focuses on the city identity of the Erzurum Urban Protected Area [9]. Another research focuses on artificial identity elements of Erzurum within the historical city and discusses their contribution to the identity of Erzurum [10]. Different from them, researches analyze the identity of Erzurum without depending on urban and spatial components [11,12,13]. While a study reveals urban identity elements through focusing on a literary work "Five Cities," which is an urban monograph [11], another study, which determines Erzurum's urban identity depend on artworks, determines based on folk songs [13]. On the other hand, a study analyzes an Erzurum's identity depending on Erzurum's district municipalities' logos regarding humanistic point of view (12). However, none of the existing researches has explored the identity from the perspective of inhabitants of Erzurum and/or focused on the whole city and/or all identity elements.

In addition to the researches, some reports discuss Erzurum's urban identity and its elements. Among them, while a report of Erzurum Special Provincial Administration (2009) states the city is well known with winter tourism, historical monuments, and traditional dishes [14]; a study argues that Erzurum and its surroundings have significant geographical, cultural, economic, and social properties that make cities distinct from other cities of the Turkish Republic in the region [15]. According to research, the most significant features of Erzurum are its historical and cultural background, winter tourism, spa tourism, food culture, architectural pattern, folklore and songs, and agriculture and animal husbandry [16]. More specifically, the significant

urban identity elements of Erzurum are defined as the Palandöken Mountain, Oltu Stone, Tortum Waterfall, Ehram (a traditional costume), Congress Building, Bastions (Aziziye, Mecidiye, and Kiremitlik), Yakutiye Madrasa, Lalapaşa Mosque, Three Domes and Öşvank Church [15]. On the other hand, Andaç (2010) considers the Three Domes, Twin-Minaret Madrasa, Erzurum Castle, Clock Tower, Ulu Mosque, other mosques, inns, and public baths as the significant identity elements of the city. However, it should be noted that the reports are prepared by and/or for local institutions. They were written based on secondary sources and experiences in the city, in other words, based on a subjective evaluation of the writers.

On the other hand, the present research, different from the earlier research and reports, a departure from the idea that urban identity could not be determined without inhabitants' input. All urban identity elements should be investigated, and the inhabitants' perspective should be included to determine the identity instead of focusing on a single element and/or a part of the city. It is important for Erzurum as an important Anatolian city with its significant identity elements in order to provide sustainability of these features, some of which are in a state of deterioration [4,17].

Even the previous studies have determined the same identity element, Erzurum's urban identity elements are defined differently in each study. That could be the result of a lack of intersubjective consensus on Erzurum's identity elements. Since nobody could define a city's identity elements subjectively, that will be meaningful for all inhabitants without a consensus. Therefore, although Erzurum Special Provincial Administration (2009), Yaşar (2013), and Andaç (2015) presents urban identity elements subjectively, they still emphasize the importance of the determination of the Erzurum identity elements. Statements "Erzurum is a city that looks for its identity" [16, p.439] and "what do mark Erzurum's urban identity? [16,p.422]" reveals the need for clarifying urban identity elements of Erzurum with its inhabitants.

From this departure point, the present research is designed as an exploratory study in order to answer two research questions; "What are urban identity elements of Erzurum from the perspective of inhabitants?" and "To what extent differences between inhabitants' socio-demographic characteristics explain differences between their perceptions about the identity

elements?" To answer the research questions and reach the study's aim, in the following parts, the concepts of perception, environmental image, urban identity, and urban identity's elements are presented. Through this way, the theoretical basis of this empirical research is established.

Perception is an information retrieval process [18]. In this line, environmental perception can be defined as an understanding and interpreting what is happening around us through psychological and sociological processes. As it is accepted for all the processes, perception is a unique personal experience, which shows differences from one person to another [19,p.17]. In this context, age [20,21,22], gender [20,23], personal experiences within a space [2,23,24,25,26], and personal knowledge about an environment [24,26] are accepted as main factors affecting the environmental perception of an individual. Additionally, transportation systems or movements within the space [20,27], the physical structure of space [2], the quality of life [2], and the level of satisfaction of the people [2] are defined as the factors affecting environmental perception. In short, taking into account internal and external factors, each individual distinctly perceives the environment. Therefore, an environmental image and a perceived urban identity may differ from person to person.

Rapoport (1977) defines urban identity as a generalized mental image of an urban environment. In this line, the concept could be conceptualized as a means for cities to express themselves just like an individual, an environment, and a society. Similarly, Lynch (1960) defines urban identity as, basically, the individuality of a space or a property of the space that makes it distinctive from other places. Distinctiveness gains importance in our globalizing world, where cities have lost their individuality and start to look like one another [28]. Moreover, as stated by Relph (1976), a strong urban identity has the potential to "serve as a pragmatic foundation for addressing the profound local and global challenges such as climate change and economic disparity that are emerging in the present century." On the other hand, it is impossible to create a strong urban identity in a controlled manner since it is a continuously evolving dynamic process in of itself [29].

Urban identity is about being unique; its elements create that. Although some identity elements such as built heritage make an important

contribution to urban identity [30], it could not be explained depend on an identity element. Urban identity and its creation depend on the sustainability of the elements such as geography, topography, other factors created by the natural environment, climate, cultural heritage, and traditions [31]. In terms of the elements of urban identity, Rapoport (1977) argues that in addition to visual and aesthetic values (flora and artificial environment), physical properties (architectural structures, urban pattern and urban macro form), and social properties (religious, cultural, political, etc.) should also be considered when analyzing urban identity. In the same line, according to a study, in addition to functional and social elements, history, urban zoning, environmental properties, urban responsibility, roads, and symbolic elements must take place in the discussion on an urban identity [32].

On the other hand, Gürsel (1996) and Beyhan and Gürkan (2015) categorized the components of urban identity under four groups as local features depending on topography, cultural heritage, quality, and character social need; and generated technology. In sum, the theoretical discussions reveal that urban identity is determined by changes in the city and variables and by constants. Moreover, an urban identity is composed of physical elements such as buildings and streets and created by inhabitants of a city [1]. In other words, urban identity is shaped by physical and cultural accumulation and individuals living and benefiting from a city. Therefore, when analyzing urban identity, a city's physical structure and social dynamics should be considered together.

Along this line, urban identity elements are commonly handled in two groups as social identity elements and environmental identity elements that are categorized as natural environmental properties and artificial environmental properties. While natural properties refer to topographical properties and climate and flora; artificial properties include elements at settlement level such as building, street, and square; urban equipment such as direction signs, lighting, and trash cans; and symbolic elements such as monumental architectural buildings. On the other hand, social identity is created by socio-cultural and socio-economical elements [1,33,34,35,36]. In short, urban identity is the sum of the most significant and effective components, including environmental and social elements that define a city [36].

2. MATERIALS AND METHODOLOGY

2.1 Contextual Settings of the Case City, Erzurum

As the case of this research, Erzurum, with its natural and artificial environmental elements and social features, creates this study's material. Erzurum, located in the Eastern Anatolia Region, is the fourth largest city in the Turkish Republic in terms of its area (about 25.066 km²). The average elevation of the city center above sea level is 1859 m [14,37].

In terms of natural environmental elements, the province's topographical structure consists of open plains, mountainous areas, and deep valleys between these mountains. The chief mountain mass of Erzurum, Palandöken, is located at the south of the settlement area. The Mountain has a summit of 3176 m., and the top of the mountain is called Ejder 3200. The city's geographical location and topographical structure create a very severe continental climate; while winters are long and harsh, summers are short and warm in Erzurum. Over the last 70 years, the highest temperature was 35°C, and the lowest temperature was -35°C. The average number of days with snow is 50 per year, and the ground is covered by snow 114 days per year in Erzurum. The dominant natural vegetation across the city is the steppe formations; about 60% of the provincial land is covered by the steppes [14,37] (Fig. 1).

The artificial environmental characteristics of Erzurum have been created within its 6000-years history. The city, located on the historical Silk Road, has been an important settlement in Anatolia in different periods of humanity's history. During its known history dates back to 4000 BC, several civilizations inhabited Erzurum starting from Hurrians until the Turkish Republic's foundation in 1923 [6,38,39,40,41]. Due to its rich settlement history, a broad cultural diversity has been embedded in Erzurum's urban space.

On the other hand, in the city, the only monument with legible traces dating back to the pre-11th century is Erzurum Castle, that has been built during the Urartian period in 900 BC [38,41] (Fig. 2). It could be explained by the influence of Muslim societies' dominance starting from the 11th century in the city. Since, as it is seen in the case of Erzurum, Muslim societies generally either built new cities or worked to establish a new culture on the existing city [42].

During the 11th century, Turks became dominant in the region. As a result, today, there are many significant examples of Turkish-Islamic architecture in Erzurum, such as the Ulu Mosque (12th century, Saltukoğulları) (Fig. 3), Twin Minaret Madrasa (13th century, Seljuks), Yakutiye Madrasa (14th century, Ilkhanid) (Fig. 4), Three Domes (12–14th century, Saltukoğulları and Seljuks), Rüstem Paşa Covered Bazaar (16th century, Ottomans) and Lala Paşa Mosque (16th century, Ottomans) [44].

Mosques, madrasas (theological schools), and domes are artificial elements that reflect Erzurum's Turkish-Islamic character [45]. Therefore, at the end of the Ottoman Empire in 1923, when the Turkish Republic was established, the city had an appearance of a traditional Turkish city [38,44].

After 1923, Erzurum has continued its development in line with the founders of the Turkish Republic's approach as a modern society will exist in modern urban space. In line with modernization, a plan, prepared by J.H. Lambert in 1938–1939, led to the launch of a planned development of Erzurum. Through the Lambert plan, Cumhuriyet (Republic in English) Square (that is commonly called Havuzbaşı in daily life) and Cumhuriyet Street was built as a spatial representation of the Turkish Republic in Erzurum (Fig. 5) [44,46].

As a result, in the 21st century, Erzurum is a modern Turkish city with many historical elements dating back to 4000 BC. Traces of different civilizations and cultures are legible both at the architectural and urban levels in the city. However, the city's traditional pattern was eroded during the 20th century [17]. As Madran states (2009), the erosion continues at a significantly increased rate during the 21st century.

The co-existence of modern and traditional is not limited to urban space, but also it is seen in the socio-cultural structure. The inhabitants of Erzurum are known for their faithfulness to their customs, traditions, and conservatism. In order to define the social structure, Andaç (2010,p.423) stated that "the only truth for Erzurum is a commitment to history". The modernization process of the society started with the establishment of the Turkish Republic and continued with the Atatürk University's impact that was founded in 1957 as the 7th university of Turkey. The Atatürk University provided changes in the traditional social structure, which had a

positive impact on the people's education and intellectual capacity; both are considered to play an important role in the development of a society. Besides, the concept of *dadaş*, which is used to describe people originating from Erzurum; the folk dance of Erzurum called a *bar*; *javelin*, which is traditional in Turkish sport; traditional houses; traditional foods; and *oltu* stone, which is a precious stone mine extracting from Oltu district of Erzurum and its surrounding area, are used in order to define the current socio-cultural structure of Erzurum [37].

Lastly, in terms of the socio-economic structure, the city is mostly known for its animal husbandry and agriculture in the outlying rural areas. However, in the city center, there are many civil servants as well as blue- and white-collar workers in the private sector. On the other hand, due to Atatürk University's presence with its 68,564 student population [48], among the population of the city's central districts as 339,683 [49], Erzurum could be considered as a student city.

Moreover, in addition to its natural identity elements, since one of the main income sources is winter tourism, Erzurum is generally defined as a winter city. Erzurum has an important winter tourism infrastructure and superstructure that has been constructed depend on Winter Sports and Tourism Master Plan prepared by the Turkish Republic State Planning Organization in 1991. Today, the city is one of the most important winter tourism destinations in Turkey [50]. Because of its capacity in terms of winter sports, the 2011 Winter Universiade took place in Erzurum (Fig. 6). Finally, since it is geographically located at a transition point, Erzurum sustains its importance for the country's defense, as it has always has been historically. Therefore, the military also has an impact on the socio-economic structure of the city [37].

2.2 Methodology of the Research

The present study has been designed as an exploratory case study. In order to reach its aims, both qualitative and quantitative data collection techniques were used. In this part, the research's universe, characteristics of the sample, data collection, and data analysis techniques are introduced.

The research universe has been comprised of Erzurum's inhabitants, those 18 years of age and over, which numbers 251.395 in 2015 [52], when field study has been designed and conducted.

For the universe, the sample has been determined as 246 with a ± 0.05 sampling error (d) ($p=0.8, q=0.2$) with the following formulation = $\frac{N \cdot P \cdot Q \cdot Z^2 \cdot \alpha}{(N-1) \cdot d^2}$. To collect data in a systematic way, a questionnaire has been designed, including close-ended questions to learn the respondents' socio-demographic characteristics and open-ended questions to explore respondents' perception about identity elements of Erzurum. The structured questionnaire was used during interviews with 280 respondents. The respondents were selected through a random sampling technique in the city center of Erzurum from May to June 2015. In the end, 268 of the 280 questionnaires were used in the analyses as the primary source of this research.

During the interviews, first, close-ended questions were asked to explore respondents' gender, age, education, if he/she is from Erzurum originally or not, and length of residence in Erzurum. To classify the collected qualitative data, a frequency method was used. The findings of the characteristics of the sample were presented as seen in Table 1 and Fig. 7. With respect to gender, while half of the sample (50%) were female, a half (50%) were male; with respect to age, more than a half (57.1%) were aged between 19–25 years-old, around one-fourth (22.4%) were aged between 26–35 years old, and one-fifth (20.5%) were 36 years old and

above; and with respect to educational level, around one-third (32.1%) graduated from high school or below, while more than a half (53.4%) graduated from university and almost one-seventh (14.6%) have a master or doctorate degree. On the other hand, in terms of being from Erzurum originally, while two-fifths (41.8%) were identified themselves as natives of Erzurum and other three-fifths (58.2%) were not; in terms of length of residence in Erzurum, while one-quarter (26.5%) have lived in Erzurum less than a year, one-quarter have lived between 1–5 years, about one-seventh have lived between 5–20 years and about one-third (32.5%) have lived more than 20 years.

Second, to explore the perception of respondents about Erzurum's identity elements, open-ended questions were asked. In this context, seven elements of urban identity were determined in the literature [1,33,34,35,36], as topographical properties, climate and flora, elements at the settlement level, urban equipment, and symbolic properties, socio-cultural elements, and socio-economical elements were given to respondents. First, respondents were asked to mention an identity element for each of the 7 categories. After their answers, respondents were asked to rank the elements expressed by themselves from 1 to 7, according to the contribution of the mentioned elements on Erzurum's urban identity.



Fig. 1. Location of Erzurum



Fig. 2. Erzurum Castle in the 20th century [43]



Fig. 3. Ulu Mosque (author's personal archive)



Fig. 4. Yakutiye Madrasa (author's personal archive)



Fig. 5. Cumhuriyet Street and Cumhuriyet Square in 1960s [47]



Fig. 6. A poster prepared for the 2011 Winter Universiade [51]

Table 1. Characteristics of the sample

Background Information	Variables	Frequency	%
Gender	female	134	50
	male	134	50
Age	18-25	153	57.1
	26-35	60	22.4
	36 and above	55	20.5
Educational level	high school or below	86	32.1
	undergraduate	143	53.4
	graduate or doctorate	39	14.6
Natives of Erzurum or not	natives	112	41.8
	others	156	58.2
Length of residence in Erzurum	less than a year	71	26.5
	between 1 - 5 years	70	26.1
	between 5 - 20 years	40	14.9
	more than 20 years	87	32.5

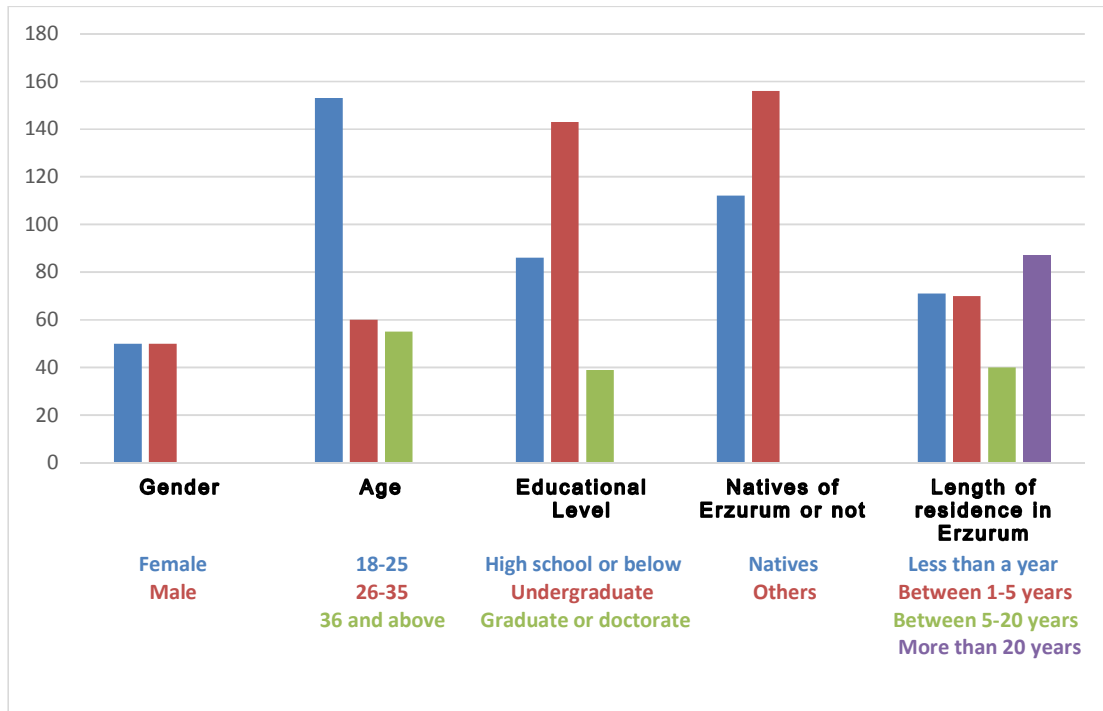


Fig. 7. Sample of the research

Collected qualitative and quantitative data were analyzed through the frequencies method, content analysis, and discriminant analysis techniques. In the data analyzing process, first, the qualitative data was turned to quantitative data through content analysis, and perceived urban identity elements were explored. Depending on the findings of content analysis, the most significant elements of Erzurum's urban identity and the most significant element in each identity element were explored using the frequencies method. Then discriminant analysis technique was used to determine the differences between respondents according to their urban identity elements' perception. In the next section, the findings reached through the analyses are presented.

3. RESULTS AND DISCUSSION

As a result, first, the content analysis revealed that while environmental identity elements were mentioned 963 times (72.5%), social identity elements were mentioned 366 times (27.5%) (Table 2). Natural and artificial environmental elements were mentioned almost equally; while the first one was mentioned 474 times (35.7% in total mentions), the second was mentioned 489 times (36.8% in total mentions) (Fig. 8).

Evaluating natural identity properties in itself revealed that topographical properties were mentioned 246 times, and climate and flora properties were mentioned 228 times. For artificial identity properties: symbolic properties were mentioned 236 times; elements within the settlement level were cited 219 times, and urban equipment was cited 34 times. On the other hand, for social identity properties: the socio-cultural elements category was cited by 182 respondents, and 184 respondents cited the socio-economical elements category. In short, in the case of Erzurum, urban identity elements are, from most to least mentioned, ranked as topographical properties (18.5%), symbolic properties (17.8%), climate and flora (17.2%), elements at settlement level (16.5%), socio-economical (13.8%), socio-cultural (13.7%) and urban equipment (2.6%) (Table 2).

During the interviews, respondents were also asked to put into order the important urban identity elements according to their perceived contribution to Erzurum's urban identity. Collected data were categorized through the frequencies method (Table 3). Accordingly, 210 respondents ranked topographical properties, 203 ranked symbolic properties, 202 ranked climate and flora, 200 respondents ranked elements at settlement level, 197 ranked socio-

cultural elements, 177 ranked socio-economical elements, and 153 ranked urban equipment's. This finding reveals the order of the identity elements in terms of their perceived contribution to the urban identity of Erzurum.

On the other hand, to introduce the significant identity elements of Erzurum, perceived elements are presented in Table 4¹. For topographical properties, the most mentioned element was the Palandöken Mountain that was mentioned 222 times (90.2%), the other 8 perceived topographical elements were mentioned 24 times (9.8%). The most cited one was the Twin Minaret Madrasa that was mentioned 116 times (49.2%) for symbolic elements. There were 18 other perceived symbolic elements: 4 of them were mentioned more than 5%: respectively, Double Headed Eagle (9.7%), Diving Towers (6.8%), Yakutiye Madrasa (6.4%), and Cumhuriyet Square (6.4%). The other 14 symbolic elements were mentioned 51 times (21.6%) in total. On the other hand, climate and flora elements were mentioned 228 times; the most cited perceived element was the cold climate. While it was mentioned 214 times (93.9%), 6 other climate and flora elements were mentioned 14 (6.1%) times in total.

Among the elements at the settlement level, the most cited element was Cumhuriyet Street. It was mentioned 139 times (63.5%), and there were 2 other perceived elements that were mentioned more than 5% at settlement level among other the 27 elements. These are, respectively, Cumhuriyet Square (8.7%) and Yakutiye Madrasa (5.9%). The other 25 perceived elements at the settlement level were mentioned 48 (21.9%) times in total. For socio-economical properties, the most cited element was student city. It was mentioned 40 times (21.7%), and there were other 27 perceived socio-economical properties. Three of them were mentioned more than 5%, respectively: Dadaş city (15.2%), Winter tourism city (10.9%), and Public servant city (10.3%). The other 24 perceived socio-economical elements were mentioned 77 times (41.8%) in total. In socio-cultural elements, the most cited element was Cağ stew. The cağ stew was mentioned 63 times (34.6%), and there were other 29 socio-economical elements. Another 3 mentioned more than 5% respectively; Bar (a kind of folk dance)

(19.2%), Traditional houses (10.4%) and traditional foods (6.6%). The other 26 elements were mentioned 53 times (29.2%) in total; in other words, almost nearly one-three respondents mentioned them. Of the 34 referred to artificial urban equipment elements, the most cited element was street light in the shape of a snowflake. that was mentioned 9 times (26.5%), and there were other 14 perceived urban equipment elements. Four of them were mentioned more than 5%, respectively: Bus shelter that is covered on all sides (14.7%), Street light in the shape of a winter sportsman (14.7%), Historical water fountain (5.9%), and Double-headed eagle sculpture (5.9%). The other 10 perceived urban equipment elements were mentioned 11 (32.4%) times in total.

In order to define the significant urban identity elements of Erzurum, until this point, perceived elements are presented depending on their number of mentions within their identity elements' group. Regardless of which group the perceived elements belong to, the most mentioned identity elements of Erzurum are presented in Table 5. Among 136 perceived elements, only 8 elements are presented in Table 5. These 8 perceived identity elements were mentioned more than 10% of the respondents; in other words, the elements that have a significant contribution to the urban identity of Erzurum are, from the most to least cited; Palandöken Mountain (16.7%), cold climate (16.1%), Cumhuriyet Street (10.5%), Twin Minaret Madrasa (8.7%), Cağ stew (8.7%), Student city (3%), Erzurum's folk dance (bar) (2.6%) and Dadaş's city (2.1%) (Fig. 9). Therefore, while 8 main urban identity elements of Erzurum were cited 64.6% in total, the first 4 were mentioned more than half (52%) of the respondents. On the other hand, other 128 identity elements were mentioned by about one-third of the respondents (35.4%).

Finally, discriminant analyses revealed that respondents' perception about Erzurum's urban identity elements did not explain differences between the respondents' groups in terms of gender, length of residence in Erzurum and whether or not they are natives of Erzurum. Therefore, in this part, only the discriminant scores for age and education groups are presented. First, relating to age, standardized canonical discriminant functions reveals that perception about topographical elements (1.000) is an influential discriminating variable, and the group means of age is 36 years old and above

⁽¹⁾ Only the elements were mentioned by more than 5% within its category has been introduced, due to the limited space devoted to this study.

(-0.393) scored significantly higher than the other age groups. In other words, perception about the topographical elements contributed significantly

to explaining the differences among the age groups, and the significant difference seen in the age group 36 years old and above, negatively.

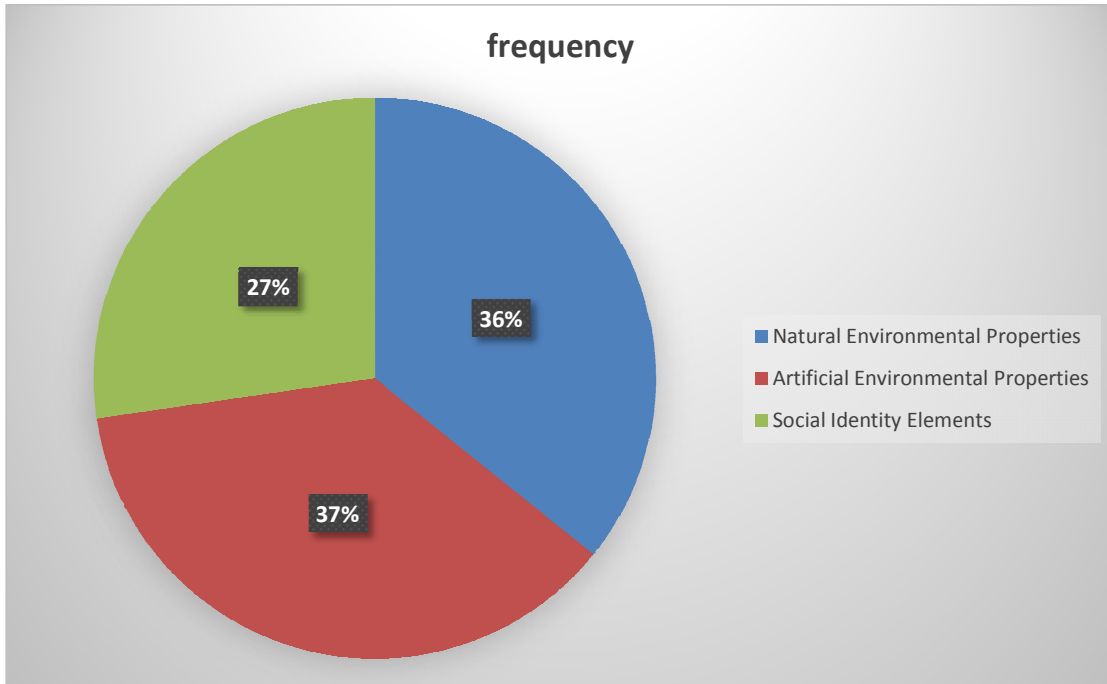


Fig. 8. Urban identity element groups with their mentioning level

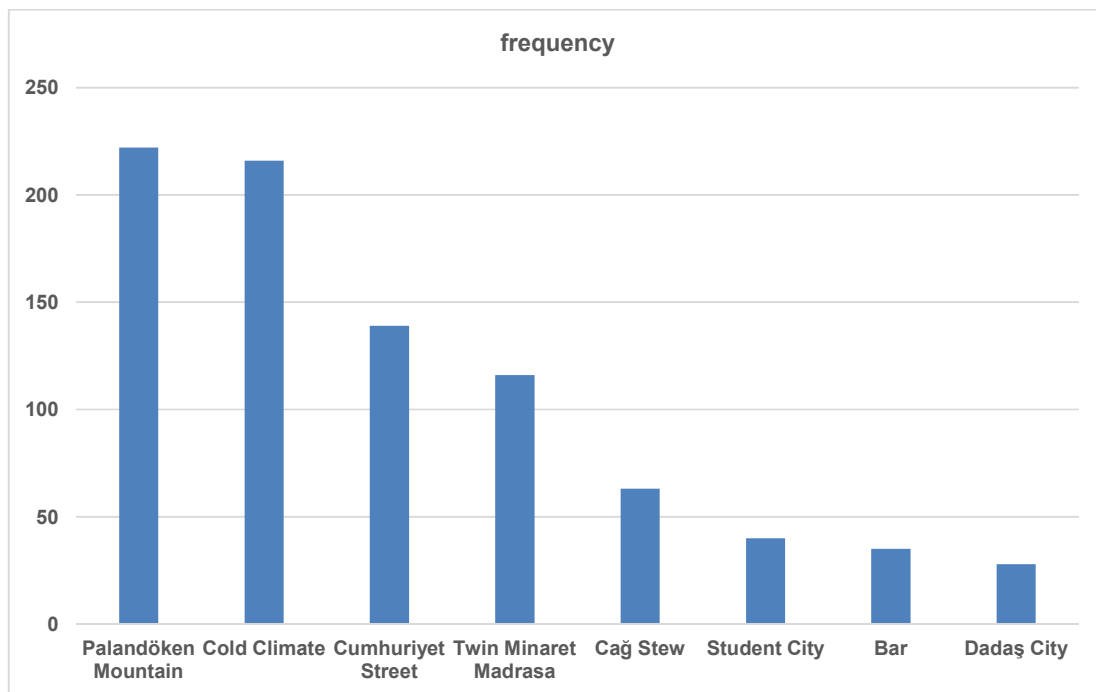


Fig. 9. Comparison of mentioning level of the most significant urban identity elements of Erzurum

Table 2. Urban identity element groups, elements, and their mentioning level

	Urban identity element groups				Urban identity elements			
	Frequency	%		Frequency	%	Frequency	%	
Environmental identity elements	963	73.2	Natural environmental properties	474	35.7	Topographical properties	246	18.5
			Artificial environmental properties	489	36.8	Climate and flora	228	17.2
Social identity elements	366	27.5				Symbolic elements	236	17.8
			Elements at settlement level			Urban equipment	34	2.6
			Socio-cultural elements	366	27.5	Socio-cultural elements	182	13.7
			Socio-economical properties			Socio-economical properties	184	13.8
total			1329	100		1329	100	

Table 3. The urban identity elements according to their subjective value on Erzurum's urban identity

order of the elements	Topographical properties		Climate and Flora		Elements at settlement level		Urban equipment		Symbolic elements		Socio-cultural elements		Socio-economical properties	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1	59	28.1	58	28.7	20	10.0	0	0	37	18.2	28	14.2	15	8.5
2	56	26.7	41	20.3	32	16.0	3	2.0	39	19.2	32	16.2	13	7.3
3	32	15.2	30	14.9	59	29.5	6	3.9	36	17.7	29	14.7	18	10.2
4	28	13.3	22	11.9	29	14.5	21	13.7	43	21.2	41	20.8	20	11.3
5	20	9.5	26	10.9	40	20.0	18	11.8	29	14.3	28	14.2	28	15.8
6	12	5.7	21	10.4	13	6.5	27	17.6	16	7.9	34	17.3	41	23.2
7	3	1.4	4	2.0	7	3.5	78	51.0	3	1.5	5	2.5	42	23.7
number of respondents	210	100	202	100	200	100	153	100	203	100	197	100	177	100
total	572		602		704		896		657		722		849	

Table 4. Erzurum's urban identity elements under the urban identity element groups

Urban identity elements	Order	Perceived elements	Frequency	%
Topographical elements	1	Palandöken Mountain	222	90.2
		others	24	9.8
		total	246	100
Symbolic Elements	1	Twin Minaret Madrasa	116	49.2
	2	Double Headed Eagle	23	9.7
	3	Diving Towers	16	6.8
	4	Yakutiye Madrasa	15	6.4
	5	Cumhuriyet Square	15	6.4
		others	51	21.6
		total	236	100
Climate and Flora	1	Cold Climate	214	93.9
		others	14	6.1
		total	228	100
Elements at settlement level	1	Cumhuriyet Street	139	63.5
	2	Cumhuriyet Square	19	8.7
	3	Yakutiye Madrasa	13	5.9
		others	48	21.9
		total	219	100
Socio-economical properties	1	Student City	40	21.7
	2	Dadaş City	28	15.2
	3	Winter Tourism City	20	10.9
	4	Public Servants City	19	10.3
		others	77	41.8
		total	184	100
Socio-cultural elements	1	Cağ Stew	63	34.6
	2	Bar	35	19.2
	3	Traditional Houses	19	10.4
	4	Traditional Foods	12	6.6
		others	53	29.1
		total	182	100
Urban Equipment	1	Street Light in the shape of a snowflake	9	26.5
	2	Bus Shelter that is covered on all sides	5	14.7
	3	Street Light in the shape of a winter sportsman	5	14.7
	4	Historical Water Fountain	2	5.9
	5	Double Headed Eagle Sculpture	2	5.9
		others	11	32.4
		total	34	100

Second, standardized canonical discriminant functions relating to educational level reveal that perception about socio-economical elements (1.000) is a discriminating variable. Moreover, the group centroids' functions indicate that the group means of education, High school or below (-0.291), scored significantly higher than other

education groups. In short, perception regarding socio-economical elements contributed significantly to explaining the differences among the education groups, and the significant difference seen between education group high school and lower, negatively.

Table 5. Significant urban identity elements of Erzurum were mentioned by more than 10 % of the respondents

Order	Perceived elements	Identity elements	frequency	%
1	Palandöken Mountain	Topographical properties	222	16.7
2	Cold Climate	Climate and flora	216	16.1
3	Cumhuriyet Street	Elements in settlement level	139	10.5
4	Twin Minaret Madrasa	Symbolic properties	116	8.7
5	Cağ Stew	Socio-cultural elements	63	4.7
6	Student City	Socio-economical properties	40	3
7	Bar	Socio-cultural elements	35	2.6
8	Dadaş City	Socio-economical properties	28	2.1
	total		859	64.6
	others		470	35.4



Fig. 10. The main perceived identity elements of Erzurum: Twin Minaret Madrasa located in front of the snow-capped Palandöken Mountain's silhouette [53]

4. CONCLUSION

The present study primarily explored Erzurum's identity elements from the inhabitants' perspective. To achieve this aim, in line with the literature [1,33,34,35,36], urban identity elements are placed in two main categories: as environmental elements, consisting of natural and artificial elements, and social identity elements. At the end, this research revealed that environmental properties have more of an impact than social properties, and both natural and artificial identity properties are for the most part equally impactful, and both are more

impactful than the social identity elements in the case of Erzurum.

Moreover, environmental and social identity elements are placed into seven identity categories based on the idea of Ünügür (1996) as urban identity is the sum of the components. Therefore, urban identity is dependent on its most significant and impactful components. The research revealed that among the seven identity elements, from most to least cited, while each of topographical properties, symbolic elements and climate and flora properties were mentioned around one-fifth of the time; elements at

settlement level cited almost one-sixth; each of socio-economical and socio-cultural properties were mentioned more than one-seventh of the time; and urban equipment was mentioned only one-fortieth. These results reveal that Erzurum's identity was based primarily on topographical, climate and flora, symbolic elements and elements at the settlement level. This conclusion is also supported by respondents' rankings for the mentioned identity elements' contribution on the Erzurum's urban identity.

On the other hand, eight urban identity elements that are mentioned by at least 10% of the total sample are determined as, respectively, Palandöken Mountain, was mentioned by more than eight out of ten respondents; cold climate conditions was cited by eight out of ten respondents; Cumhuriyet Street was mentioned by more than five out of ten respondents; Twin-Minarete Madrasa was cited by more than four out of ten respondents; Cağ stew was mentioned by almost one out of four respondents; being a student city was mentioned by almost one-half out of every ten respondents; Erzurum's folk dance was cited by almost one-half out of every ten respondents and being a *dadaş* city was mentioned by one out of every ten respondents. Since the first four perceived identity elements that were mentioned by half of the total, this result reveals a strong consensus about the contribution of Palandöken Mountain, cold climate, Cumhuriyet Street and Twin Minaret Madrasa as main identity elements of Erzurum (Fig. 10).

Palandöken Mountain, as the significant identity element of Erzurum, is the highest mountain in the city. It is an important natural element in the south of the city and creates a background for the silhouette of Erzurum. As the second most significant identity element of Erzurum, cold climate is felt as part of everyday life since Erzurum has a severe continental climate. There is snowfall in almost one-seventh of the year, and the ground is covered with snow almost one-third of the year. Moreover, among all 136 perceived urban identity elements, the diving towers (building as an architectural structure for winter sports), winter tourism, the street light in the shape of a snowflake; bus shelter is covered on all sides, and the street light in the shape of a winter sportsman is the identity elements of Erzurum related to Palandöken Mountain and cold climate. Therefore, this study revealed that the two most significant identity elements contribute to the

formation of other identity elements in the artificial environment in the case of Erzurum.

In addition to these natural environment elements, the artificial elements were also perceived among the most significant identity elements of Erzurum. Erzurum is commonly recognized as an important Turk-Islam city [38], and that has reflections both at urban and architectural levels. However, this research revealed that the third most significant perceived identity element of Erzurum is Cumhuriyet Street, which was planned and constructed after establishing the Turkish Republic as an important public space with its symbolic meaning, spatial form, and urban function. Moreover, Cumhuriyet Street still continues its relevance in the 21st century's Erzurum as the city center's commercial spine.

On the other hand, the other most significant artificial environment element, Twin Minaret Madrasa, was constructed in the 13th century during the Seljuks' dominance in Anatolia. It is an important example of Turk-Islam architecture, and it is on UNESCO's World Heritage Tentative List. As it is mentioned by Andaç (2010), the madrasa is commonly presented as the symbol of Erzurum. The madrasa's influence as a symbol can be seen on architectural structures and logos, such as the Erzurum interurban bus terminal building, Erzurum Metropolitan Municipality building and logos, and the 2011 Winter Universiade (Fig. 9). Therefore, in addition to its significant contribution to the urban identity, the Twin-Minarete Madrasa is also an important source of inspiration in the process of local identity formation. This reveals that, in the same line with Şifta (2016), municipal emblems function as a local representative and a characteristic of the emblems as uniqueness and context-dependency.

Lynch (1960), Ittelson (1973), Tuan (1974), Rapoport, (1977), Lang (1987), Aktürk (1993), Kahvecioğlu (1998) and Tümertekin and Özgüç (2002) discusses the differences of environmental perception, urban image and so urban identity as being dependent on the personal differences and experiences in the space. Similarly, the present study revealed that while perception about topographical elements contributed to explaining the differences among the age groups, perception about socio-economical elements contributed to explaining the differences among the educational levels. Although it is revealed that urban identity

perception shows a difference depending on an individual's characteristics, significant differences were seen only regarding age and education in Erzurum.

As a result, this exploratory case study, departing from the idea that urban identity is a social and cultural phenomenon and very unique for each individual and society, explored the urban identity elements from the perspective of the inhabitants of Erzurum. That is of critical importance in our globalized and localized parallel world because of the potential of urban identity, as Relph (1976) stated. In our contemporary world, distinctive features of the cities should be highlighted in order to sustain competitiveness and prevent cities from losing their identities and becoming copies of each other. For this reason, urban identity elements should be determined based on inter-subjectively built consensus. Every city-related activity and project, such as urban design projects, city plans, and urban regeneration studies, should take into account the urban identity. The consideration of urban identity elements during the preparation and implementation of projects will help create a sense of ownership of the projects and their products. Moreover, that will help improve cities' competitiveness through building strategies based on widely-accepted urban identity elements. In practice, both the determination of urban identity based on inter subjective consensus and the control and supervision of plans and/or projects in terms of if they have been prepared by considering every unique city's specific identity could be under the control of local governments. Through this way, before the implementation of plans and/or projects, they could be examined whether, during their preparation, urban identity elements have been taken into account or not.

Based on these suggestions and findings of this study, some specific strategies could be proposed for the city, Erzurum. First, depending on the most important perceived identity elements of Erzurum as Palandöken Mountain and cold climate, the city's image as a winter city should be highlighted more and more. Second, even the city has been conceptualized with its cultural heritage dates back to the Seljuks, and Ottoman periods, Cumhuriyet Street dated to the Turkish Republic period. Therefore, Erzurum's modern identity elements built after 1850 when the Turkish Modernization process started should be highlighted more. Third, symbolic

properties such as Twin Minaret Madrasa should be sustained in protection-usage balance. Based on these three strategies, the identity of Erzurum could be conceptualized as a modern winter city with its rich cultural heritage. From this point of view, the vision of Erzurum could be determined as a modern winter city that protects its socio-cultural values and cultural heritages. Since the vision has been developed based on the perceived identity elements, it could be easily accepted by the inhabitants of Erzurum and could be easily adopted to the plans and/or projects, which have an important effect on the cities' image. This way, the urban identity of Erzurum could be stronger and distinctive from the cities losing their identities in our globalizing world.

Only in this way can cities compete with other cities and retain and sustain their distinctive local values by creating an urban image based on its identity elements. It is critically important that cities gain more importance and distinctiveness as cities with strong urban identities to become resources, not only for themselves and their inhabitants but also for their countries, by standing out and being distinctive in our globalized world.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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