ISSN: 2651-4923 • e-ISSN: 2667-6915

Yılmaz, Y., Dinçer, R., Akkaya, N. ve Artan, T. (2023). Evaluation of the expectations of elderly individuals towards public spaces and the residences they live in. Turkish Journal of Applied Social Work, 6 (2), 140-153. di 10.54467/trjasw.1302092

## RESEARCH ARTICLE

**Submission:** 25/05/2023 Revision: 25/08/2023 **Accepted:** 20/12/2023

# **EVALUATION OF THE EXPECTATIONS OF ELDERLY INDIVIDUALS TOWARDS** PUBLIC SPACES AND THE RESIDENCES THEY LIVE IN

Yaşlı Bireylerin Kamusal Alanlara ve Yaşadıkları Konutlara Yönelik Beklentilerinin Değerlendirilmesi

Yelda YILMAZ<sup>1</sup> Rumeysa DİNÇER<sup>2</sup> Nurhalime AKKAYA<sup>3</sup> Taner ARTAN⁴

- <sup>1</sup> Rest. Asst., Istanbul Sabahattin Zaim University, Faculty of Health Sciences, Department of Social Work,
- <sup>2</sup> Rest. Asst., Istanbul Esenyurt University, Faculty of Health Sciences, Department of Social Work, ☑rumeysadincer@esenyurt.edu.tr (D) 0000-0003-3795-8901
- $^3$ Social Worker, Istanbul University-Cerrahpaşa 🔀 nurhalimeakkaya@gmail.com 🕩 0000-0002-6521-7687
- <sup>4</sup> Assoc. Prof., Istanbul University-Cerrahpaşa University, Faculty of Health Sciences, Department of Social Work.

#### **ABSTRACT**

Many problems come to the fore with urbanization, urban transformation, and the increasing elderly population. For urbanization to be realized by taking the elderly population into account, the opinions of the elderly should be considered. This research aims to focus on the approaches of the elderly to the phenomenon of urbanization. For this purpose, in-depth interviews were conducted with 16 participants with a semi-structured interview form. Socio-demographic data were analyzed with IBM SPSS 26. In order to support the findings, the prominent statements of the participants were directly quoted. Considering the prominent findings according to the analyzes made, it is seen that the participants need help in terms of transportation, the availability of places to socialize, neighborly relations, and the existing physical conditions of the houses. As a result of the study, suggestions were presented to field workers, local governments and policymakers.

Keywords: Elderly people, housing, public area, place

### ÖZET

Kentleşme, kentsel dönüşüm süreci ve artan yaşlı nüfus beraberinde birçok farklı sorunu gündeme getirmektedir. Kentleşmenin yaşlı nüfusu göz önüne alarak gerçekleştirilmesi için yaşlıların bu konu hakkındaki fikirlerinin dikkate alınması gerekmektedir. Bu araştırmayla, yaşlıların kentleşme olgusuna yaklaşımları üzerine durulması amaçlanmıştır. Belirtilen amaç doğrultusunda, yarı yapılandırılmış görüşme formu ile 16 katılımcıyla derinlemesine görüşmeler gerçekleştirilmiştir. Sosyodemografik veriler IBM SPSS 26 programı ile analiz edilmiştir. Bulguların desteklenmesi için katılımcıların öne çıkan ifadeleri doğrudan aktarılmıştır. Yapılan analizlere göre öne çıkan bulgulara bakıldığında katılımcıların ulaşım, sosyalleşebilecek mekân varlığı, komşuluk ilişkileri ve evlerin mevcut fiziksel koşulları konusunda sorun yaşadıkları görülmektedir. Çalışma neticesinde yaşlılık alanında çalışan saha çalışanlarına, yerel yönetimlere ve politika yapıcılara öneriler sunulmuştur.

Anahtar Kelimeler: Yaşlı, konut, kamusal alan, mekân

### **INTRODUCTION**

The concept of space is essential because the elderly spend most of their lives at home. Today, the narrowing in the living spaces of the elderly and the isolation that comes with this narrowing can bring feelings such as loneliness, exclusion, and insecurity to the elderly. Along with the loneliness that increases with age, the possibility of individuals being dependent on another person also increases. Considering this situation, it is necessary to plan and build residences and spaces for elderly individuals, who are increasingly lonely in modern cities, according to elderly individuals (Huxhold et al., 2014).

The old people need to adapt to new spaces to realize the reconstruction of the cities by considering the accessibility, green space availability, and continuity of belonging for the elderly. The concept of accessibility in terms of space for the elderly is directly related to transportation. It may cause the elderly to struggle to access essential services (Çunkuş et al., 2019). Elderly individuals who struggle to perform daily activities move away from social life over time (Roger, 2010). In addition, Dodson et al. state (2004) that the elderly are among the risky groups that may be exposed to social exclusion due to the inconvenience of transportation. Therefore, the healing aspect of green spaces, which offer socialization opportunities, was also determined in Roger's study (2010), and the beneficial aspect of these spaces that are good for human health was emphasized.

Reconstruction of cities makes it difficult for the elderly to continue living in tight spaces (Neves and Amaro, 2010). A study looking at the urban transformation from the eyes of the elderly has shown that the elderly will be alone with the urban transformation, lose their identity, and fear that the places that meet their basic needs will disappear. The relatives-neighbor solidarity will disappear (Çunkus et al., 2019).

Old age is alleviated by the moral contributions of social relations and support (Ulrich et al., 1991). This symbolic bond that elderly individuals who feel they belong to their environment establish with their environment ensures that both the elderly and the environment are mutually influenced by each other. In this respect, it is seen that the areas accessible to the elderly play an essential role in maintaining the biopsychosocial well-being of the elderly (Ergun and Ergun, 2020).



VOLUME 06 • ISSUE 02 • DECEMBER 2023 ISSN: 2651-4923 • e-ISSN: 2667-6915

In order to have a healthy and active aging process, living spaces should be created in a way that is suitable for the participation of the elderly. For this reason, it is necessary to evaluate the expectations of elderly individuals from local governments and the current situation in constructing areas for the elderly. In-accordance with this, the main problem of this study is "What are the expectations of the elderly from public spaces and what is their satisfaction level?". The sub-questions of the study are as follows:

- What are the main factors affecting the spatial preferences of the elderly?
- What is the spatial and technological accessibility of the elderly?
- How does the changing urban life affect elderly people's sense of belonging and commitment to living spaces?

### **METHOD**

## **Research Design**

A qualitative research method was used in this research, which was conducted to observe the current situation in the construction of public spaces and residences and to see the expectations of the elderly. The data collection process was carried out using an in-depth interview technique. The reason for using the qualitative research method in this study is to understand the expectations of the elderly with open-ended questions and to discover the problems that were not addressed in the questions during the interview process.

## **Participicants**

The sample of the study consists of 16 volunteers aged 65 and over. Among the selection criteria of the participants are being 65 years old and over and having the ability to evaluate and respond to spatial and environmental conditions. Face-to-face interviews with elderly individuals were conducted indoors (private homes) and outdoors (parks, mosque courtyards, and recreational facilities).

### **Data Collection Tools**

The data collection phase of the research was designed to last approximately 30 minutes, and the interviews were conducted to face-to-face. Socio-demographic information was obtained from the elderly who were approved to participate in the study. Then, semi-structured interview questions and additional questions were asked during the interview. The questions asked to the participants were based on the problem of what kind of expectations the elderly have in the construction of public spaces and residences and how the current situation meets these expectations. In the questions covering the subject of the research, a total of 25 open-ended questions were asked, five under the

titles of accessibility, transportation, and use of space, six under the title of architectural change, and four under the title of belonging, and the thoughts of the elderly were discussed.

# **Data Analysis**

The socio-demographic data of participants were analyzed with the IBM SPSS 26 program and categorized at regular intervals. The interview answers obtained were interpreted in the line with descriptive analysis. The data obtained from the participants were categorized and transferred manually, without changing their statements, accompanied by prominent theme headings. Spelling arrangements have been made in a way that will keep the meaning of the collected data the same.

### **RESULTS**

**Table 1: Socio-demographic Findings** 

Gender	n=16	%
Female	11	68.8
Male	5	31.3
Age		
65	1	6.3
66	2	12.5
67	1	6.3
68	1	6.3
70	2	12.5
74	2	12.5
75	3	18.8
77	2	12.5
81	1	6.3
92	1	6.3
Family Income Status		
Low	3	18.8
Below the middle	3	18.8
Middle	8	50.0
Above the middle	2	12.5
Who do you live with?		
Spouse	5	31.3
Family	5	31.3
With children	4	25.0
Alone	1	6.3
With grandchildren	1	6.3
Where do you currently live?		
Big city	15	93.8

Village	1	6.3
Do you live in an urban renewal are	ea?	
Yes	8	50.0
No	8	50.0
How many children do you have?		
2	5	31.3
3	2	12.5
4	4	25.0
5	2	12.5
7 and above	3	18.9
How is your relationship with your	child?	
Very good	4	25.0
Good	8	50.0
No bad	3	18.8
Too bad	1	6.3
How many years have you lived in	the same area?	
1-10	3	18.9
11-20	1	6.3
21- 30	4	31.4
31-40	3	18.9
41-50	5	25.1

Considering the prominent findings from the socio-demographic data in the table; there are 68.8% female and 31.3% male participants. Looking at the age range, the mean age was 73.25±6.88 years. In the question of family income status, half of the participants stated that they were at a middle-income. In addition to this, the answer of the question of whom the participants live with is spouse and family. It is seen that 93.8% of the participants live in metropolitan cities while half of the participants live in the urban transformation area. Considering the number of children of the participants had, the average number of children was 4.25±2.54. Looking at the participant's relationship with their children, 8 participants stated that it was good. When the duration of the participants' living in the same region is examined, 5 participants stated that they lived in the same region between 41-50 years.

# Accessibility

There are five questions under the heading of accessibility, and in the first question, their opinions about the measures taken for their safety in the city they live in were asked. According to the answers given, three participants thought there was security, while one person stated it was not enough. The remaining thirteen think that they need more security. Looking at the featured answers:

"When you do not say anything to anyone, no one will say anything to you. We do not have the right way. Our path was not made. How many years have I been here? They

have made asphalt. They did it at our own expense. I am dating myself, but I cannot take my child out. It is not safe..." (P9,75, Male)

"I live in Erenköy, Istanbul. No factor can negatively affect my life in this region. Environmental regulations are positive for our health. The roads are well-built, and traffic lights and signs are enough. I live in a safe area for the elderly." (K1, 74, Female)

The second question is about whether they are satisfied with the physical conditions of the house they live in. Six participants stated that they were satisfied with all conditions, four participants were not satisfied with any situation. Looking at the featured answers:

"The house I live in is in a central location where I can meet my basic needs such as market, hospital, and health center. However, since my house is on the main street, I am not satisfied with much noise. I also worry about the earthquake as I live in an old building." (K1, 74, Female)

"I made it myself. It's considered rotten. The slum is single-story. I'm burning the stove. There is natural gas, but I can't burn it. 1 billion bills. I'm thinking of giving it to the contractor, no lie. It's small, but they don't give an apartment." (K9.75, Male)

The third question is about the problems experienced in transportation to hospitals and public buildings. While eleven participants stated they had no problems, six stated they had problems. The prominent answers are as follows:

"The hospital is already closed. We are going on foot, but do you have a vehicle for others to go? Bus we wait, but they do not come. I am already old... The municipality can do something like a special service for us. The occasion is very troublesome." (K13, 74, Male)

"I cannot go alone. Considering that I am alone, I must be able to reach the ambulance in any way possible. Regulations can be made in the communication system in health. Especially in the appointment system!" (K5, 68, Female)

The fourth question of the study is related to the easy access to green areas such as parks. According to the answers, eleven participants stated they could access it easily, while six said they could not. The prominent answers are as follows:

"We are not going anywhere. Always in the courtyard of the mosque, in the park... I wish there were a place for old men to gather if tea was cheap. I would love to. But there is none." (K13, 74, Male)

"I performed the noon prayer, I am sitting here (in the courtyard of the mosque). This green area of the mosque is very beautiful. For the elderly, for sitting, for rest. This place



VOLUME 06 • ISSUE 02 • DECEMBER 2023 ISSN: 2651-4923 • e-ISSN: 2667-6915

is so ideal." (K4, 92, Male)

The last question of the accessibility title is about whether they have problems accessing the internet. Six of the participants stated that they did not have any problems using the internet. While seven participants stated they do not use the Internet, the remaining four stated they had problems.

## **Transport**

There are two questions under the heading of transportation, the first of which is about the problems they experience in transportation while going from place to place. According to the answers given, eight participants stated that they had no problems, and nine stated that they had problems. The problems they experience are usually about the lack of vehicles, the distance from the stops, the inability to get on alone due to their discomfort, or the vehicles being too crowded.

The second question about transportation is about the problems they experience in finding a place in public transportation or getting on and off. While eight participants stated that they did not experience any problems, nine stated they had problems with these issues. The prominent statements are as follows:

"I am having great difficulty. I get in the car, they don't give a place. I have to stand. I go to the heads of young people, but they close their eyes and pretend to sleep...» (P16, 77, Female)

"Of course, it is difficult because the steps are very high. And because the society often does not care for the sick and the elderly, it is often necessary to travel on foot." (K17, 77, Female)

# **Use of Space**

When the participants were asked where the places they socialize, seven participants stated that they preferred open spaces such as parks and green areas and three preferred closed areas such as shopping centers and cultural areas. While three participants stated that they spent time with their family and neighbors to socialize, one participant stated that he did not leave his house due to his illness, and another stated that he did not leave the house by his own choice. Two participants stated that no places are suitable for the elderly. The prominent answers are as follows:

"Mosque. There is a park opposite my house. Sometimes I just go and sit there. I have friends from the mosque community. Mostly I come and sit here." (K4, 92, Male)

"There is no place to socialize. I want a place to sit and have tea and chat with my peers." (K2, 66, Female)

When the elderly were asked about the places they would like to go or not go to other than the places they went to socialize, the participants often explained that they could not go to the places they wanted to be due to transportation problems, economic problems, and accessibility problems due to their illnesses. While six of the participants stated that economic reasons were an obstacle, seven stated that the health problems and physical difficulties brought about by old age constitute an obstacle to going where they want to go.

"We cannot go too little through transport. There is nothing for the elderly to breathe...

And financial difficulties. I am not retired. An old-age pension." (K13, 74, Male)

"There is no mosque I did not visit a year or two ago, whether across or on these sides...

However, now I cannot go this year. I am scared. Somewhere I get hit by a car or fall.

I stand up. I walk well. Moreover, lately, I have not been able to balance it for the last month or two." (K4.92, Male)

While eight of the participants think that there are places that appeal to their age group in the region where they live, nine of them think that they are not.

"I do not think I will not rest my head comfortably. I will take a walk. There are no social facilities." (K2.66, Female)

"There is no place I can go where I live, except at my neighbor's house." (K6, 67, Female)

When the participants were asked whether they would like to participate and if there was a place where they could spend time with young people, twelve participants said they would like to participate. One of the participants stated that he did not want it, another said he wanted it occasionally, and another stated that he thought the young people would not chat with them.

"What am I to do with young people? It would be better if she was my age." (K6, 67, Female)

"Some of the young people do not chat with us." (K16, 77, Female)

When the participants were asked whether there were places they would like to spend time with their peers, three participants stated that there were no such places, twelve participants stated that they were few. One of the participants stated that they spend time with their peers in front of their houses and the others in their associations.

## **Architectural Change**

The participants in the study were asked about the spatial changes they observed today compared to ten years ago, and three participants stated that nothing had changed. In contrast, the fourteen participants stated that economic problems have increased, the effects of urbanization have been observed, green areas have decreased, and neighborhood relations have undergone negative transformations. Some of the prominent answers are as follows:

"Many buildings have been built, when there were no shops. The environment became crowded and alienated." (P5, 68, Female)

"Everything was better 10 years ago. There was kinship. Now we are closed to homes due to illness." (P11, 70, Female)

While one participant commented on the neighborhood relations with the changing architecture: "It is okay for me." and one participant answered that it has not changed, fifteen participants stated that architecture weakens neighborly relations and as time passes, they cannot establish spiritual relations as before. Some of the prominent answers are as follows:

"Neighborhood is gone. There is none. If you have time... There is no neighborhood left. However, we split our bread in half. Not so now. Now, if someone dies of pain, no one gives a bite. Well, it is getting worse and worse." (P4, 92, Male)

"There is no respect and love left. There are no old neighbors. We used to call each other all the time, now they pass by, but they do not greet." (K16, 77, Female)

When asked how green areas are affected by the architectural change, 3 participants stated that green areas did not decrease, while fourteen said green areas decreased. Some of the prominent responses are as follows:

"I think the existing green spaces are not used for their purpose. Animals use the parks as toilets. This should not be allowed. There is no place for people to sit or step on. Bicycles hinder and endanger traffic. The roads are irregular, and the parks must be cleaned of the animals' dirt; putting cat-dog food on the pavements causes environmental pollution." (P2, 66, Female)

The question of what kind of spaces have started to take place in order to meet their needs in the place where they live with the changing conditions; Answers were given in the form of markets, sports complexes, social and recreational facilities, cafes, cultural centers, parks, apartments, gardens, buildings, health institutions and shopping centers. Some of the prominent ones among these answers are as follows:

"Markets never existed, they did. Sports complex, park, garden, cultural center, social facilities, our market, apartments and residences... It was better in the past." (K5, 68, Female)

"Health, markets and shopping centers, social areas and recreational facilities increased." (P17, 77, Female)

When asked whether there were spaces that needed to be added in the changing architecture to meet the basic needs, eight participants stated that they were not missing. In contrast, nine participants stated there were deficiencies in accessibility. Some of the prominent responses are as follows:

"The sites are lacking in gardens, parking lots are not enough, huge places are being built, but there is no place for people to go down and breathe." (P2, 66, Female)

"I wish the bakery and market were closer to my house." (K16, 77, Female)

In the research, when the participants were asked whether the noise pollution brought by urbanization bothered them, two stated that there was no noise in the place where they lived and were not disturbed, and one stated that they were used to it. In contrast, fourteen participants expressed their discomfort in various sentences:

"Yes, the fact that my house is on the main street, the increased traffic, and the increasing population in my region as a result of renewal have created such disturbances." (P1, 74, Female)

"Yes, it is a lot, especially in this neighborhood, the sound is never missing, I cannot lift my head that much anymore." (K15, 74, Female)

# **Belonging**

In order to observe the belongings of the participants in their homes and social environments, a question was asked about the memories of the region where they lived. The prominent answers are as follows:

"... I have never worked. I do not have insurance either. The kids did not make me work. I wish I worked. I did not think about today. I am not satisfied with this life. Because I cannot say I do not have pocket money, I cannot ask... This place is valuable to me. The hospital is very close. If I get sick today, my child can take me to the hospital." (K4, 92, Male)

"For 44 years. It is okay, I cannot live anywhere, but here. I always call my neighbors here." (K15, 75, Female)

The question of how people who moved to the region they live in affect their sense of belonging. Three participants mentioned that their communication with newly moved people was good. Five participants stated that they were not affected at all.

"I have tenants. When they come and go, I always cry after them because I get used to it." (K15, 75, Female)

"I am at an equal distance from everyone, but we cannot communicate much. There must be a common point. They do not even get greetings. I do not care much, even if it affects me. I do not care. After a certain age, human relations weakened..." (P2,66, Female)

Asked whether they have the right to have a say in changing the layout of their house, one of the participants stated that they lived alone and the other one stated that they could not change it. In contrast, fifteen participants stated they had authority in the household and their decisions were respected. Some of the prominent responses are as follows:

"I am first in line. My children see me as the head of the house." (P5, 68, Female)

"Myself myself. When I say I will do something, I do it, no one interferes." (P9, 75, Male)

The participants in the study were asked how they felt when they were away from their place of residence for a long time, and answers were obtained that met on a common theme, such as longing for their homes and neighbors, wanting to leave the place they went and return to their homes, being sad, bored elsewhere. Some of the prominent responses are as follows:

"I miss it so much. I want to go back right away. I am bored somewhere else." (P15, 75, Female)

"I miss going back to my home and being with my children and grandchildren and spending time with them." (P7, 81, Female)

### **DISCUSSION**

This study aims to present the current problems in the public and private living spaces of individuals aged 65 and over.

From the answers given under the heading of accessibility, it was understood that there was no security where the participants lived in, insufficient infrastructure, and problems in finding places and directions. In a similar study, elderly individuals mentioned, especially urban infrastructure problems. They have been observed to complain about the inadequacy of functional walkways, elevators, traffic lights, and signs (Dodson et al., 2004).

From the answers related to their access to the internet, it was understood that the participants did not have internet access problems because they did not have any access to technological devices. Contrary to this study, in a study conducted in Portugal, more than half of the participants found that they regularly use technological devices (Huxhold et al., 2014).

The elderly said they prefer parks and green areas to get fresh air rather than closed areas. It is seen that green areas in urban life have positive effects on elderly individuals and contribute to keeping their social lives active (Alidoust and Bosman, 2015).

Almost half of the elderly think the spaces designed for them are sufficient. In a study on the effect of social activities on the well-being of elderly individuals, it was observed that participants who communicated with their peers experienced fewer adverse effects of aging (Garginlo et al., 2018).

The participants stated that they wanted to share the same places with the young people regarding socialization, but they were worried about being understood and excluded. A study focusing on intergenerational communications and dealing with interaction of young-old adults observed a significant decrease in the social anxiety levels of older individuals interacting with young people (Şentürk, 2018). With this result, there was a need for more places where older individuals could interact with young people.

When the participants were asked about the spatial changes, they have observed today, compared to the last ten years, most of them stated there were so many economic, environmental and urbanization problems and negatively neighborhood relations. Similarly, in the literature, economic, cultural, and political processes are experienced together with urban modernization. It is seen that these processes also affect the shaping of architectural structures (Kurtkapan, 2018).

Those who lived in the same region for a long time were more willing to talk about their memories of the place they lived in during the interviews. Elderly people who had only lived in the region for a short time did not share their memories because they could not connect with the environment. A study showed that living in the same place for a long time contributed to the accumulation of memories (Atchley, 1977).

All of the participants yearn for their sense of belonging to their living spaces when separated from their place. The literature shows that the elderly living in the same residence for a long time have a higher sense of belonging to the living space (Cramm and Nieboer, 2013).

The findings obtained as a result of this study are important because it is a resource that policymakers, field workers and especially local governments can benefit from working with elderly individuals in the field. In this reason, at below some suggestions are offered related to the subject.

# **For Policymakers**

- Developing social policies to combat the inequality created by urban aging for the elderly.
- Improving living standards on a macro scale by evaluating the space use of elderly individuals in national action plans on aging and aging.

### **For Field Workers**

- Providing ergonomic and gerontological arrangements that will provide autonomy to the elderly indoors and outdoors,
- Organizing peer group activities to facilitate the adaptation process of elderly individuals in the urban transformation process,
- Conducting longitudinal studies to see whether the expectations of the elderly from public spaces and spaces are met.

### **For Local Governments**

- Disseminating age-friendly urban practices and making them accessible to all elderly people in the country,
- Planning the infrastructure works that will help the elderly to engage in physical and social activities,
- By the principle of aging in place, providing conveniences specific to older adults in the zoning planning of houses where they spend most of their lives.

### REFERENCES

- Alidoust, S. and Bosman, C. (2015). Planning for an ageing population: links between social health, neighbourhood environment and the elderly. Australian Planner, 52(3), 177-186.
- Atchley, R. C. (1977). The social forces in later life: An introduction to gerontology. Belmont, California: Wadsworth.
- Cramm Jane, M. and Nieboer, A P. (2013). Relationships between frailty, neighborhood security, social cohesion and sense of belonging among community-dwelling older people. Geriatrics & Gerontology International; 13 (3), 759–763.
- Cunkuş, N., Yiğitoğlu, G.T, and Akbaş, E. (2019). Aging and social exclusion. Journal of Geriatric Sciences, 2(2), 58-67.
- Dodson, J., Gleeson, B, and Sipe, N. G. (2004). Transport disavantage and social status: A review of literature and methods.
- Ergun, C. and Ergun, E. (2020). Urban transformation through the eyes of the elderly on the axis of Harvey's discussion of space. Academic Sensitivities, 7 (14), 121–145.
- Gargiulo, C, Zucaro, F. and Gaglione, F. A. (2018). Set of variables for the elderly accessibility in urban areas. TeMA-Journal of Land Use, Mobility and Environment, 53–66.
- Huxhold, O., Miche, M. and Schüz, B. (2014). Benefits of having friends in older age: Differential effects of informal social activities on well-being in middle-aged and older adults. Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 69 (3), 366–375.
- Kurtkapan, H. (2018). Aging and Local Government Practices in the City. Nobel Scientific Works.
- Neves, B. B. and Amaro, F. (2012). Too old for technology? How the elderly of Lisbon use and perceive ICT. The Journal of Community Informatics, 8(1), 1-12.
- Roger, S. U. (2010). Health benefits of gardens in hospitals: Plants for people. Texas: Center for health Systems and Design, 17.5.
- Sentürk, U. (2018). Sociology of Old Age, Social Trajectories of Old Age. Bursa: Dora.
- Ulrich, R.S, Simons, R.F., Losito, B.D., Fiorito, E., Miles, M. A. and Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. Journal of Environmental Psychology, 11 (3), 201–230.