Questioning the use of the balcony in apartments during the COVID-19 pandemic process

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Abstract

Purpose – The purpose of this paper is to assess using of balconies in apartment buildings. In the research, by questioning the use of balconies as to the coronavirus disease 2019 (COVID-19) process and before, the place and importance of the balcony in the apartment house were questioned.

Design/methodology/approach – Balcony performance dimensions and components, which were revealed based on the studies conducted, were analyzed with questions directed to the individuals living in the apartment (one person every flat). In the research in which behavioral and functional performance is questioned through users, the survey method was used and the data were analyzed in the Statistical Product and Service Solutions (SPSS) program. Apart from the performance dimensions, data on the characteristics of the balconies were also obtained from the answers of the users.

Findings – The use of balconies has increased during the pandemic process and has become more important in apartments. The size of the balcony is related to the size of the house. The functional performance of the balcony is linked to the size of the balcony, behavioral and environmental values. The balcony should be large enough to accommodate equipment for daily activities, the proximity to the surrounding buildings, view, noise affect the performance of the balcony.

Research limitations/implications – The research is limited to the questionnaire applied to apartment users in Konya (Turkey) city center. Male and female users participated in the study, and the use of the balcony was questioned.

Practical implications – Apartment design includes results that contribute to architects regarding the location and use of the balcony. It also includes the results that can be evaluated by local governments in terms of binding rules on balconies in zoning regulations.

Social implications – The balcony is one of the rooms of the house, which is mainly designed in connection with the kitchen and living room / living room and shared by the household. The balcony is used as a socializing place for the common actions of the house users. This space that opens to the outside is valuable in terms of providing communication with people outside.

Originality/value – The fact that no study has been conducted to question the use of the balcony over the user makes this study valuable. In addition, questioning the use of the balcony during the pandemic process is important in terms of revealing the importance of the need for open space in an apartment. The results will contribute to architects and local administrations in terms of binding rules in design regarding the location of the balcony in the house.

Keywords Apartment design, Balcony, Flat, Apartment, Pandemic

Paper type Research paper

1. Introduction

In the Oxford Epidemiology Dictionary, the word pandemic is defined as "an epidemic that transcends international borders in a very wide area worldwide" (Bıyıksız, 2020). The WHO (World Health Organization) decides on whether a disease becomes a pandemic in the 21st century. The disease is declared as a pandemic if there are factors such as the first appearance of the disease, its transmission to humans, being dangerous and the disease spreading easily

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(Aslan, 2020). Throughout history, there have been many epidemics/pandemics that spread in different ways due to different reasons and affected the whole world. These outbreaks can occur through circulation, respiration/air, human/ animal body, water, clothing and surfaces through viruses or bacteria (Bıyıksız, 2020; Kıygı, 2020).

Some of these epidemics have been shaping the way of life in human history. Although the measures created based on the transmission patterns of epidemics during epidemic periods are specific to each epidemic, in fact, the common feature of each epidemic is quarantine. Quarantine, known in its current form, was first applied in Ragusa in 1377 (Atabek, 1977; Varlı, 2020).

Quarantine, which is the main method taken in general epidemics, is directly related to architecture and indirectly affected the architectural formations in each epidemic period. Although this change is mostly related to the form of the epidemic, the lifestyle and sociological structure of the people also played an important role in this formation.

Coronavirus disease 2019 (COVID-19) is one of the many epidemics that humanity has witnessed throughout history. When the virus, which started as an epidemic in Wuhan, China in December 2019, started to spread to the world by crossing the borders of the country, it was declared as a global epidemic (pandemic) by WHO on March 11, 2020. As the new coronavirus continues to spread, countries around the globe have ordered citizens to retreat to their homes—and stay there. The home, more than a place to escape from routine and urban chaos, has become the most important place where people refrain from viruses and infections during the pandemic process. Preventing people from leaving their homes, which is the safest place, has been the primary precaution that governments have taken and enforced to prevent contamination. Being at home during the pandemic process, related to the cultures of the societies, made us question the relationship between daily life and home. To reduce the risk of contamination specifically for COVID-19, many issues such as lack of contact with hands, minimizing or absent contact with door handles and elevator buttons, not entering the house with shoes, disinfecting shoes to a place close to the entrance, ventilating/cleaning the clothes worn outside, washing hands with soap for a long time, ventilating the spaces, spaciousness, the ability of home users to sit at a distance and contact with neighbors brought the question of the "home" to the agenda in this process. Apart from these, the relationship of the house with the exterior, the windows and balconies that allow visual and auditory socialization have been important during the long stay at home during the pandemic period. People who go to work, shopping, park, garden, cafe, restaurant, sports, bazaar and the market in their daily life have started to discover/create the environments in the home that will make them feel good when they do not go out unless necessary during the pandemic process. The WHO has defined health as a state of complete physical, mental and spiritual well-being. The contribution of the house where the person shelters to the well-being is important. How did the balcony contribute to "well-being" during the pandemic process? The question is the starting point of this study. The purpose of this study is to question the functional and behavioral performance of "Balcony" during the pandemic process. With this questioning, the location and design quality of the balconies in the apartments have also been revealed.

2. The relationship between pandemic and architecture

When the history of the world is examined, the hospitals are known as "Nazareto," "Lazzaretto" or "Lazaretto." "Lazarettos" are hospitals and quarantine places designed to isolate individuals exposed to epidemics. The main purpose of these places is to isolate individuals who are infected or at risk of becoming infected for 40 days (İşler, 2019). The word quarantine also comes from being isolated for 40 days (Varlı, 2020). Lazzaretto Vecchio, one of the most important examples of Lazzaretto, is on the island of Nazareth. According to the decision of the Venice Health Commission dated 1423, Lazzaretto Vecchio was first established by refunctioning the structures left idle. Lazzaretto Vecchio Island consists of storage volumes, courtyards, residences, gunpowder depots, gun depot, hall, main gate, piers and wells (İşler, 2019).

On the other hand, in the Ottoman Empire, the first institution concerned with public health is the Meclis-i Tahaffuz, which became official in 1838. The purpose of this institution is to take measures for the possibility of contamination by those coming from abroad. Later, isolation houses, which mean protection house and quarantine place, were established. If the temporary quarantines are ignored, "Kuleli Barracks" in 1839 is the first isolation center. Ships coming from the Black Sea and the Mediterranean were quarantined in Kuleli barracks. Isolation centers were established in Küçükçekmece in 1839, in Kartal in 1843, and in Anadolu Kavağı in 1844. "The Müessesat-ı Hayriye-i Sıhhiyye" in which vacuum furnace was placed in 1909, served as the only epidemic hospital of its time. In 1911, Sivriburun Isolation Center was used as a military isolation center (Yıldırım, 1985). Urla Quarantine Island, which is of great historical importance, was built by the French in 1865. In this quarantine island, it was extremely good in the conditions of that period regarding the individuals themselves and their clothes in order to minimize the risk of contamination of passengers arriving at the pier.

Another quarantine place is the Fumigator. In the tables designed as a disinfection station and cleaning house, the items are disinfected by passing through high-temperature heat. The spaces are divided into two parts as contaminated and clean (Yıldırım, 1985).

When we look at the epidemics in terms of architecture in the 21st century, the epidemic has been reduced to the scale of shelter in architecture with regulations and laws (Bıyıksız, 2020). Housing has not changed during the epidemic period, but it is important for a house to be ventilated, to have sunshine and to have good infrastructure in terms of health/well-being.

3. Balcony–the space of the quarantine opening outward–use of balcony in apartments

The apartment is the predominant type of housing in all cities of Turkey cities like other countries. The widespread use of apartment building in Turkey dates back to the 1960s. Along with the widespread use of individual apartment buildings, in the last two decades, housing examples consisting of apartments and social spaces have increased with the understanding of secured sites. Although there are urban, economic and sociological reasons for the spread of apartment buildings as a house, the subject of this study is to question the use of the balcony, which is the threshold space. According to Towers (2005) ideally, in the apartment, all flats should be provided with a garden, terrace or balcony. Located between private and public, balconies simultaneously belong to both arenas (Aronis, 2009). "*They are neither entirely part of a house, nor are they part of the street. Historians of street culture are increasingly placing the emphasis not on the hard boundaries between the street and the interior of buildings, nor on the sharp distinction between the public and the private, but on the porous nature of the relationship between the outside and the inside. Balconies were both places from which to observe and on which to be observed, and anyone who used a balcony was fully aware of this, an investigation into their social functions also takes us into the subjective world of social evaluation, in which what was done or said on a balcony and how it was perceived by anyone close by took on a temporal significance that lasted much longer than the time in which an individual was present*" (Cowan, 2011). Balconies are places that provide orientation to the outside world for indoor spaces that open to them (Çetin and Cimcöz, 2003). Gehl (2007) defined the places where different types of social activities are performed as gardens and balconies in houses. "*Balconies have temporal uses. Balconies that being a place for communication between home and street, the balcony serves as a place leisure – for resting, observing neighbors, and playing card, as well as a place of work-for drying laundry, shaking rugs, or simply as a storage space for all sorts of useless items*" (Aronis, 2009). With these usages, the balcony is a part of daily life. Calvo and Bejarano (2020), referring to the power of music to connect neighbors / communities through balconies during the epidemic in Spain, drew attention to the cooperation and interaction produced with audible, listenable music and stated that music as a content transformed into "musicking." "*The collective ability of a*

neighborhood or a geographically defined area to deal with stressors and efficiently resume the rhythms of daily life through cooperation following shocks" (Aldrich and Meyer, 2015).

The balcony is also a means of an aesthetic quest in residential facades, as a closed space with its semi-open space or as a space in front of the surface. Çetin and Cimcöz (2003) stated that the balcony, when used as an aesthetic element, as a function of perceiving and visually enriching the building.

The shape of the balcony, which is an extroverted threshold space, and the different spatial experiences it offers are related to the architectural formation of balconies and culture. Aronis (2009) stated that balconies in Tel Aviv, known as the "city of balconies" for many years, are an important part of the city's history and culture and have an important role in social life. He emphasized that in the 1920s, the balconies suspended on the building surface in low-rise apartments gained a feature that controlled the street by breaking from the ground. In the 1930s, the "*balcony facing balcony*" situation in apartment blocks, close to each other, forced the neighbors to socialize with each other, and the minimum distance between balconies (3 m) was introduced by the regulation for this proximity. When this decision did not create a significant change; the users began to limit the balconies with fabric, then transparent surfaces, and window shutters in the 1960s. The author stated that although these attitudes are an existential need for space and privacy, they are due to social pressure with neighbors closing down. In Tel Aviv, Aronis (2009) emphasized that communication was provided from the balconies in the period when various technologies for communication were not available, children called out from the balconies to play games, the neighbor talked to the neighbor, and the balcony lost this communication function with the closure of the physical and symbolic balcony space. Safarkhani (2016) sampled the closing of balconies as a privacy mechanism from Iran. Since privacy has an important place in social life and laws in Iranian culture, the balcony, which is the place of the house opening to the street and originating from the Western civilization, has been implemented in a more closed way. Residential users used canopies, wood and metal panels, plastic covers, and ivy plants to demarcate the balcony, to avoid strangers' sight. Lifestyles as well as a culture have affected the formation of the balcony. With the start of smoking, especially in indoor areas, balconies have turned into smoking places. Willand and Nethercote (2020) concluded in their study that "In many households, the main purpose of balcony seemed to be to enable smoking."

The effect of balconies in providing natural ventilation, which is effective in achieving health and comfort, has increased with research conducted in recent years. The effect of balconies on natural ventilation and the reduction of dependence on mechanical ventilation was investigated in the study of Mohammadi *et al.* (2010). According to Mohammadi *et al.* (2010), they also found out that the opening design, balcony configuration and internal division have great influences on inducing air speed inside the building. Although the effect of the balcony on the house technically (ventilation, acoustic, thermal comfort) is encountered in researches, there is no study questioning its use.

The balcony has a spatial value especially in apartments with its functional qualities as semi-open or open space. During the pandemic process in Turkey, the balcony has turned into places where anthems are sung, flags are waved and enthusiasm is displayed on national holidays. The prayers made from the mosques for this troubled period were accompanied by the balconies. During the days of taking shelter in the house, the balcony became the place to breathe and communicate. The questioning of the use of the balcony where these experiences were observed was carried out through the concept of performance.

4. The performance of balcony

Values experienced, perceived, observed and referenced to livability by users appear as performance indicators (Aydın and Uysal, 2009). The concept of performance is used to

define the desired properties of a material, component or system to fulfill user requirements (Sanoff, 1977). Regardless of scale, performance in architectural and environmental design is directly related to the quality of the physical environment. The performance and quality of the environment depend on the components that make up the environment, the people who produce and use it and the actions taken (Esin and Özsoy, 2003). With this knowledge, the performance of the balcony space depends on the components that make up the balcony, the individuals who design and use it and the actions taking place on the balcony.

The level of performance is an indicator of user satisfaction and space quality. Preiser *et al.* (1998) stated that performance dimensions consist of three components: (1) Technical performance (fire, structure, cleaning, ventilation, heating, exterior walls, roofs, fine structure, acoustics, lighting), (2) Functional performance (human factors, storage, circulation, zoning, communication, workflow, flexibility and change, use, and customization) and (3) Behavioral performance (affinities and domains of dominance, privacy and interaction, building/space use, image, meaning and environmental perception, environmental cognition and orientation) (Preiser *et al.*, 1998). For the balcony space, technical performance can be listed as ventilation, acoustics, material (railing, floor, and wall), cleaning (installment) and lighting. Function refers to the intended uses and activities. Functional performance is directly related to the usability of the balcony. Usage may differ depending on users. The factors affecting the use depending on the components that make up the balcony. These components can be defined as the size, orientation, ratio and relationship with the environment. For what purpose the balcony is used, its place in daily life, usage hours are the components that affect the functional performance of the balcony. Behavioral performance can be determined as visual, auditory and olfactory under the main heading of privacy (Table 1). The balcony is seen as an open / semi-open space and is perceived by the public. For this reason, being visible, being able to watch and being traceable is all about privacy. Although the balcony has borders, it is not a closed space, so the spread of the sound in the environment and the hearing of sounds from other balconies bring communication with it. Actions such as talking loudly and listening to loud music can cause discomfort.

Performance dimensions in user and space interaction include components that can be researched in every place. While evaluating the performance dimensions is beneficial in terms of determining the characteristics of the present and making positive changes, it is also a guide in determining the criteria in to minimize the negativities in new formations (Aydın and Uysal, 2009).

Technical performance	Functional performance	Behavioral performance
Ventilation	User profile	*Privacy and interaction*
Acoustic	Size	Visibility
Material	Ratio / format	Relationship with the neighboring apartment / balcony
Railing	Direction	Auditory privacy
Floor	Hours of use	*Perception of the environment*
Wall	Intensity of use	Visible from the balcony
Cleaning (Installment)	Increasing trend and expectation during the pandemic process	Landscape orientation
Lighting	Environmental qualities	Noise
		Dust–smoke
		Smell

Table 1. Performance dimensions of balcony

5. Methodology

As "architecture can be found in the actions and relational practices of everyday life" (Trogal and Petrescu, 2017), this study focuses on "using balcony space period of the pandemic in the apartment." The study was conducted in city center of Konya Province. The continental climate prevailing in the Central Anatolia Region is dominant in Konya. In the high plains of Konya Province, winters are cold, in summer it is hot during the day, cool at night, and the temperature difference between day and night is high. The average annual temperature in Konya, which receives little rainfall, is 11.3 ^{0}C. August is the driest month of the year. Temperatures drop in November, December, January and February (Web 1, 2020). In the study, a questionnaire method based on user evaluation was used. In the study, the functional and behavioral performance of the balcony before/after the pandemic process was investigated with a questionnaire using the single-stage cluster sampling method in which 160 people living in an apartment in Konya city center participated. The only criterion determined while selecting the individuals participating in the questionnaire was that they lived in Konya during the pandemic process, except that the participants were randomly included in the survey. One person from each flat participated in the study (Plate 1).

For all statistical analyzes, IBM SPSS program was used. In the study, obtaining data on future designs in line with the location of the balcony in the apartment flats in terms of architecture, and the data obtained were determined as a secondary purpose. The study is limited to the opinions of apartment users living in city center of Konya (Turkey). The questionnaire questions were shared with 10 people we know living in different apartments with Google Forms, and these 10 people shared the link with their acquaintances living in different apartments. The study was conducted in August 2020. Table 2 shows the main titles and contents of the questions.

In the conclusion of the study, the alpha (Cronbach) reliability analysis method was used to test the reliability of the questionnaire questions designed to collect data. In reliability analysis, the reliability coefficient takes values between 0 and 1, and as this value approaches 1, the reliability increases (Ural and Kılıç, 2005). When the reliability analysis was performed for the five-point Likert-type ordered scale, it was found that the test was reliable with a value of alpha 0.851.

To obtain the attitudes of the users toward the balcony and to determine the quality of the space with judicial data in terms of performance, three types of questions were included

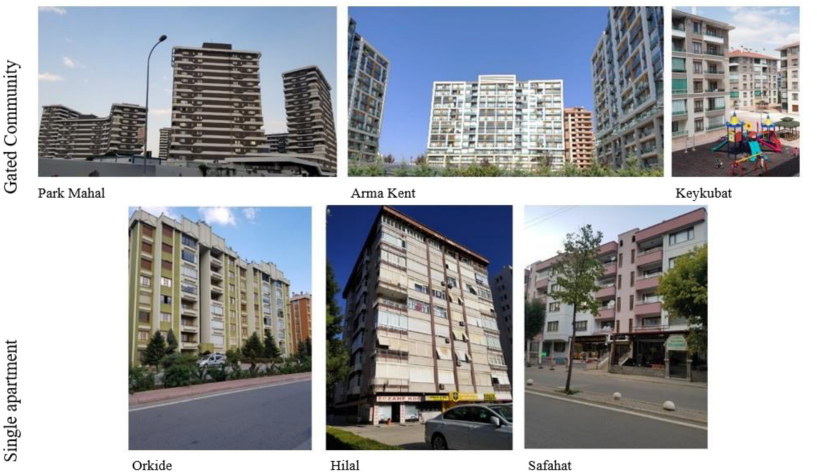

Plate 1.
Examples of the apartments where the users participating in the research live in

Independent variables	Descriptive features of the location	Functional performance	Behavioral performance
User Profile Gender Age Number of the children in the house Family Structure Being COVID-19 positive status	Number of the balconies in the house The most used balcony On which floor they live How many floors the apartment building is Size of the residence Size of the balconies The place where the balcony is connected to	Size ratio/Shape Direction Hours of use Intensity of use Increasing trend and expectation during the pandemic process Environmental qualities	*Privacy and interaction* Visibility Relationship with neighboring apartment / balcony Auditory privacy *Perception of the environment* The visible things from the balcony Heading to the view Noise Dust–Smoke

Table 2.
Performance-based content of survey questions

in the questionnaire. Independent variables such as gender, age, the number of members of the family, the size of the house, the number of balconies in the house, the questions to understand the physical characteristics of the space such as the size of the balconies, and questions using the Likert-type sequential scale to determine the functional and behavioral performance of the balcony were included. The closed-ended, five-point Likert-type sequential scale questions were arranged between "strongly agree" and "strongly disagree" (Table 3). For the qualitative description of the balconies they use for each participant, average values, and findings were obtained based on their answers regarding the percentages, behavioral and functional performance components.

The average value in the study revealed the general opinion of the participants about the balcony space. Components with a value below 3.41 in the evaluation were considered insufficient and p-value less than 0.05 significance value. Also, about nonparametric test conditions, the relationship between dependent variables and independent variables was investigated using Mann–Whitney U test and regression analysis.

6. Findings and evaluation

In the study, the purpose of using the balcony, whether there are differences in the use of the balcony during the pandemic process, the differences in the performance values and user attitudes of the balcony were analyzed.

In total, 116 women (72.5%) and 44 men (27.5%) participated in the study. Predominantly, 2, 3 and 4 people live permanently in residences, and the nuclear family type consisting of spouses and children is predominant. The number of families with one child is high (37.5%). The number of families with 2 children is 31.3%, and the number of families with no children

Item	Options	Limit
5	Strongly agree	4.21–5.00
4	Agree	3.41–4.20
3	Neutral	2.61–3.40
2	Disagree	1.81–2.60
1	Strongly disagree	1.00–1.80

Note(s): For the rating scale in comparing the arithmetic mean of the Likert-type scale; Range width: Using the formula of array width / number of groups to be made, score ranges were determined as four-fifths = 0.8

Table 3.
Range width of the five-point Likert scale

is 20.6%. The number of families living with their spouses and children is 84.4%. Participants are predominantly between the ages of 20–25, 25–35, 36–50 (Figure 1).

A relative of the users (outside the home) being COVID-19 positive has increased the duration of stay at home. In such a situation, the majority of the participants (66.3%) felt more secure and preferred to stay at home, and having a balcony at home was an advantage (48.1%).

Being COVID-19 positive for an individual in the home does not show intensity as of the month of the study (6.9%). However, the need for social distance at home was realized at a rate of 29.7%, considering the individuals who were also outside the home during the day. During the pandemic period, 48% of people left home from time to time and 25.6% of the participants went out for grocery/market shopping. There are participants who never leave their home all day long (11.3%).

Moreover, 63.1% of the participants live in apartments with 3–7 floors, 33.1% in apartments with 8–14 floors and 3.1% in apartments with 15 floors or more. 53.1% of the users live in houses larger than 150 square meters and 40.6% of them live in houses of 100–15 m^2. A significant relationship was not found between the use of the balcony and the floor (on which floor they live).

In 72.5% of the residences, the number of balconies is 2 and the kitchen balcony is used as the first choice at the same rate. The participants covered their balconies with a collapsible glass surface (56.9%). The shape of the most used balcony was determined as (1) Option 36.3%, (2) Option 15% and (3) Option 38.1% (Figure 2). The houses with rectangular and almost square rectangular balconies are the majority. The predominant size of kitchen balconies is between 4–6 and 7–10 m^2 (46.3% + 28.1%). Balconies of 14.4% of the participants are 11–14 m^2.

Although the direction of the balcony does not affect the use, the most used balconies facing south (30.5%) and north (26.9%) are more. Considering that the use of the balcony is predominantly in the evening, there is no sun exposure. It can be interpreted that restricting the heavily used balconies with a glass surface that can be opened and closed by the users

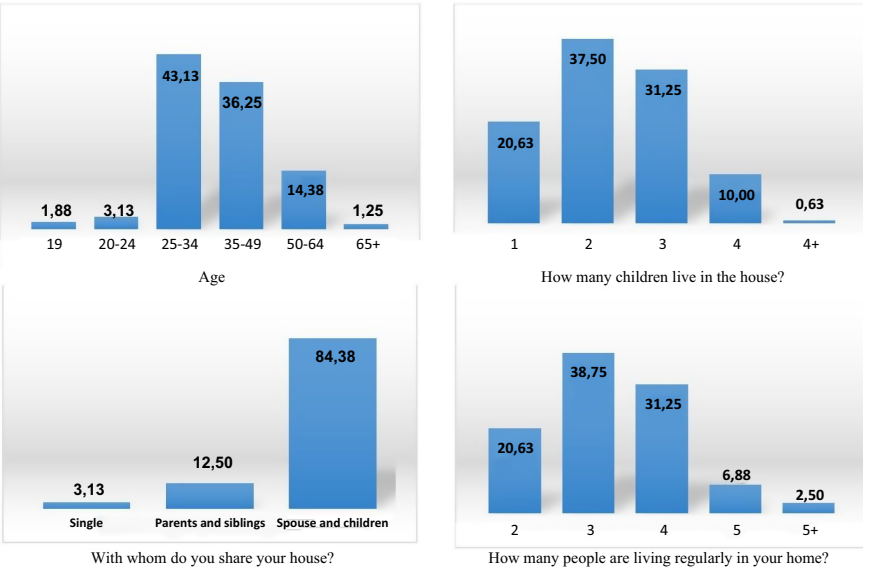

Figure 1.
Independent variables of the participants (percentage values)

protects against weather effects (wind, rain). The rate of users who have fixed elements (cupboards, counters) in balconies is low (40%).

The actions taking place on the balconies are mainly chatting "I agree" (x mean 4.18), eating "I agree" (x mean 3.68), working (with computer, book) "neutral" (x mean), playing games "neutral" (x mean 3.34), laundry drying "agree" (x mean 3.86), storage "agree" (x mean 3,80), vegetable-fruit drying "agree" (x mean 3,64), jam-tomato storage "neutral"(x mean 3,30), watching television "disagree "(x mean 2,34). The least action that takes place on the balconies is watching television. Food preparations for winter use are a common tradition in Anatolian culture. Balconies are used in apartments especially for drying vegetables and fruits, keeping jams and tomato paste.

The time spent at home (except sleeping hours) before the pandemic process was stated as 28.8% for 3–6 h, 32.5% for 6–9 h and 25.6% for 9–16 h. During the pandemic period, the time spent at home changed, with 39.4% for 9–16 h and 30.0% for more than 16 h. During the pandemic process, the duration of staying at home to be safe, either necessarily or voluntarily, has increased. The Turkey Ministry of Health's slogan "life fits into the house" was frequently repeated in the media, emphasizing that the house is safe.

During the pandemic process, the commitment to home (x mean 4.39) and the importance of the balcony in the house (x mean 4.09) increased. The hours of use of the balcony changed (x mean 3.61) and more time was spent on the balcony (x mean 4.01). The averages of the answers given for these components were taken. Regression analysis was performed between the averages and the independent variables of gender, number of children at home, number of households and age and no significant difference was found ($r = 0.232$; $p = 0.054$; p more than 0.05).

The actions taken on the balcony during the pandemic process did not differ from the previous process. Airing the clothes worn while going out and keeping them in the sun (x mean 3.79) was determined as the "I agree" opinion. Arrangements have been made for the use of balconies during the pandemic process. Establishing a more comfortable seating arrangement on the balcony (x mean 3.66) "I agree", buying a table and chair (x mean 2.89) "neutral" and planting flowers on the balcony (x mean 3,47) was evaluated as "I agree."

Of the users, 55.01% who made changes in their balconies have a balcony of 4–6 m^2 and 68.20% of them have a balcony size of 7–10 m^2. There is a significant relationship between the changes made during the pandemic process and the size of the balcony (Mann–Whitney $U = 1{,}296$; $p = 0.04$ less than 0.05). It is meaningful to make changes during the pandemic process in balconies whose size is small for more efficient and long-term use. This finding suggested that balconies larger than 11 square meters had the necessary equipment for actions.

A significant relationship was found when the changes made on the balcony were compared with the houses with a size of 75–100 m^2 and 101–150 m^2 (Mann–Whitney $U = 195$;

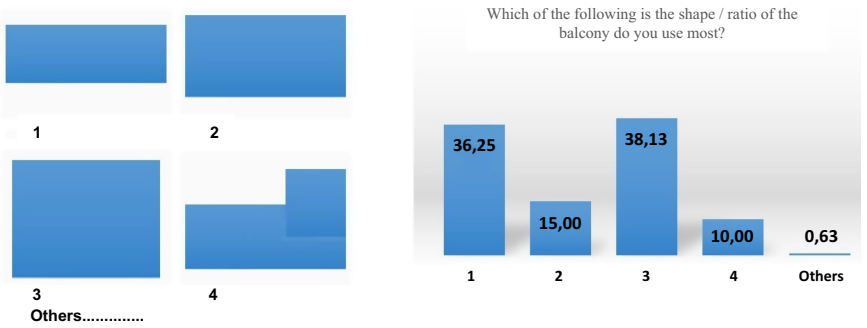

Figure 2.
Types of kitchen balconies and usage percentages according to user answers

$p = 0.04$less than 0.05). There is also a relationship between the size of the house and the size of the balcony, and it has been determined that the users who arrange the balconies are the users with small houses and balconies, as they spend longer time at home during the pandemic process.

Analyzes on the behavioral performance of the balcony are made for i. privacy and ii. perception of the environment. Regarding visual privacy, the visibility and distance of the balcony from neighboring balconies and opposite buildings, and the sound status of the auditory privacy were questioned. When the visual and auditory relationship of balconies with neighboring balconies is questioned in terms of behavioral performance; for the view that "the distance between buildings is sufficient" over x mean values, it corresponds to "I agree" with a value of x mean 3.70. It was stated by the participants that there was noise coming from neighboring balconies and with a value of x mean 2.94, it corresponds to "neutral". Seeing the balconies of the neighboring flats (x mean 2.94) and adjacent balcony with the neighboring balcony (x mean 2.53) is considered to be "neutral." The average of the total values for the components is accepted as the general opinion on privacy. The average value of the balconies regarding privacy was determined as "neutral" (x mean 3.00). With this value, it can be said that privacy in balconies cannot be achieved in terms of proximity, visibility and sound.

For environmental assessment, the quality of what can be seen from the balcony, the presence of a landscaped green area, the presence of environmental noise (street, noisy venues, construction . . .), the presence of dust and smoke in the environment were analyzed. "The things seen from the balcony are not nice" x mean 2.21, and "the balcony is exposed to dust / smoke" corresponds to "disagree" with a value of x mean 2.34. "The balcony does not look at the landscaped green area" with x mean 2.97, and "noise from the environment" with x mean 3.00 corresponds to the view of "neutral." Especially, residents of the site have turned to the green area arranged within the site. Those living in single apartments see streets and other buildings rather than a public green space. Although the average value of balconies regarding environmental perception corresponds to "disagree" (x mean 2.63), it can be said that there are negativities in terms of green areas and noise. It does not make a significant difference between the values of the balcony regarding privacy, and environmental perception and the age, gender, number of children in the family and family structure of the participants.

7. Conclusion

The spatial quality of the house as special living space has gained importance during the pandemic process. The balcony, the semi-open part of the house that opens to the outside, is an important place where the outer space is experienced, which dominates the outside in line with the field of view as a place belonging to the house. In the study, it was determined that gender, age, household size and the number of children in the house did not affect the use of balconies. The balcony is mostly used in the evening to chat and eat. Daytime use has also increased in relation to the duration of staying at home during the pandemic process.

Culturally, in daily life, food production and processing (drying vegetables and fruits, sunning jam and tomato paste) is common in Anatolia. The research shows that this tradition continues in modern apartment life and that the balcony is used for food production and processing. In relation to the gastronomic culture, the balcony emerges as an important place for natural processing of food. Therefore, it is an important design criterion for the balcony to receive the cooling wind in the summer months and to orient toward the south/sun. The function of the balcony as a storage/cellar is important for the home needs of the users. Another result that came from the use of balconies was that space for storage purposes should be considered in housing plans.

The value of the balcony has increased with the pandemic process, and the balcony has been used more frequently in the long times spent at home. The size of the balcony affects the functional performance of the balcony. Especially the effort to turn the small balconies into a place where people live during the pandemic process is important. When the balconies become a useable space, they will turn into a "place" that is attached to the main space and used individually or collectively by family members. The field study revealed that the size of the residences affects the size of the balcony.

Within the scope of the research, it was determined that the balconies of the houses are mainly rectangular with short sides and almost square. Therefore, considering the furnishing and movement area, it can be said that the dimensions and sizes of the balconies are important. For use, seating components, tables and chairs, balconies large enough to allow visually and aesthetically potted flowers to take place on the balconies must be available in the apartments. The use of balconies, which is especially important during the pandemic process, has been determined as an important place to be considered in apartment designs. The views of the participants that the balcony has increased in importance during the pandemic process can be evaluated as the psychological contribution of experiencing the outdoor space, taking oxygen, taking advantage of the breeze and the sun.

A balcony is an important place in the house that should be arranged for intensive use and activities in daily life. The use of the balcony as a place to sit, eat and chat is not only related to its size but also to its behavioral-environmental values. Behavioral values, which also affect the functionality of the balcony, are audio-visual privacy and environmental qualities. The fact that the balconies do not enter the field of view of other residences and the proximity, the absence of environmental noise (vehicle road, noisy spaces, etc.), orientation toward the landscaped green area are environmental factors that increase the usage value of the balcony. As can be seen from the survey results, the fact that the users in the sites that create their own landscape design within the site are more satisfied, it is necessary for us to consider the nature of the public space designs among the residences in the urban housing areas.

The prolongation of time spent at home during the pandemic process and the intensification of the use of balconies created an awareness on the user and increased the importance of the balcony. For this reason, taking into account the functional and behavioral performance components of balconies in apartment designs will increase user satisfaction. Therefore, the fact that the balcony in the flats is one of the main spaces facing the sun and the view in a size and shape to respond to the actions should be considered by the designers.

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