



## Housing Satisfaction of Users and Change Expectations in New Housing During and After the Covid-19 Pandemic Period

Can GÜNGÖR<sup>1,\*</sup>

<sup>1</sup> 0000-0002-0393-4293, Gazi University, Architecture Faculty, Department of Architecture, 06570, Ankara, TURKEY

### Article Info

Received: 03/05/2022  
Accepted: 29/06/2022

### Keywords

Housing Satisfaction,  
Change Expectations,  
Covid 19,  
Pandemic Period

### Abstract

The unexpected outburst of the Covid-19 Pandemic in December 2019 affected lives of all people throughout 2020 and 2021 all over the world. House usage and satisfaction dramatically altered after the restrictions took place and people were confined in their homes for long periods of time. This situation caused many homeowners to re-evaluate and criticize and even change their layouts and usage of their rooms, balconies, living areas etc. The aim of this study is to point out major deficiencies of the participants houses that came to existence via the restrictions imposed due to pandemic. In this study, participants were asked about the existing physical conditions of their current houses, the problems they encountered during the pandemic (1) and their opinions on changes that they would do to their homes if a chance occurred. (2) Also, participants were asked what kind of important issues they would take into consideration if they had a chance to move to a new house regarding their experiences during the pandemic. (3) Comparative evaluations of (1) and (2) were done in 3. Evaluations section and the most important issues to be considered when making alterations to the existing housing were listed. Also opinions on the major spatial considerations, if the participants were to purchase or rent a new home and move in, after the experiences gained during the pandemic are listed in the 4. conclusions section.

## 1. INTRODUCTION

Houses are the areas where all individuals feel most comfortable and meet their basic needs such as shelter, protection, and rest. Apart from and independently of spatial characteristics and dimensions of residences, there is also a certain level of commitment with both perceptual and emotional qualities for the users. It is a known situation that people choose their houses regarding spatial features by reviewing their spatial characteristics when they first purchase/rent considering other people/family members, etc., with whom people share the residences or will share in the future, jointly and in a balanced way.

People may have a foresight about the extraordinary situations that they may encounter in the future when choosing their residences. Until 2020, these predictions and criteria could have been limited to the dimensions of the house, the number of rooms/saloons/toilets, being central in the city, security, parking lot, social activities, and earthquake resistance. However, a situation like the Covid-19 Pandemic, which developed globally, involving great uncertainties, and the introduction of long-term curfews by the introduction of measures from the government, was a situation that would occur once in a century and could not be expected neither by architects nor homeowners.

As of March 13, 2020, due to the pandemic measures that have been officially started to be implemented in our country, the situation of closures across the country and the implementation of remote working practices by institutions after a certain period has developed. In addition, residential areas have started to be used as business areas by the people working from home. Kitchens, dining tables, a corner of the living room, maybe closed balconies have been turned into temporary offices with a computer. Similarly, the education of the students started to continue through the virtual environment and television, and the

\* Corresponding author, email: can.gungor@gazi.edu.tr

televisions and computer desks turned into school desks. Since elderly/retired individuals had to stay at home, especially the residential areas have been used for longer and uninterrupted periods and in different ways than before.

Some of the studies on these issues during the pandemic process are examined in the literature are;

In the study of Demirarslan, D., Demirarslan, O., (2021); *“ A survey study was conducted to determine the need for and use of the open-air spaces of their homes during the social isolation of people during the Covid-19 Epidemic in Turkey.”* The results of the survey conducted in apartment blocks in a neighborhood of Kocaeli province for the use of balconies were evaluated and discussed. [1]

In the research of Gali Taşçı, G., (2020); *“In business and residential buildings defined as residences, we contacted these residential units more than we did before, as we spend a lot of time in residential units after the pandemic, preferably quite a long time compared to our old life. As a result of this, we started to notice some obvious shortcomings of this housing typology, which we were not aware of before and thought that we received a complete answer to our needs, or that we could not realize even though it did not fully respond.”* As a result of this study, *“It has emerged that residence buildings should be developed to meet the outdoor contact needs of individuals and changes should be made in the interior plan organization in order to provide user comfort, especially in line with the changing perception due to the pandemic.”* The researcher listed his determinations in the direction of design, which should be changed after the pandemic, especially in the field of design for a special type of housing structure, over 3 types of plan types. [2]

The aim of Karataş, Z. (2020)'s research, the scope was stated as *“the examination of the relationship between the social impact, change and post-traumatic growth on individuals since the beginning of the COVID-19 pandemic in Turkey with various socio-demoFigure variables”* . As a result of the study, *“It was observed that there was a significant difference between the gender and educational status of the participants and the level of post-traumatic growth. If the COVID-19 pandemic can be seen as an opportunity for post-traumatic growth, it has the potential to initiate many changes at the individual and community level.”* [3]

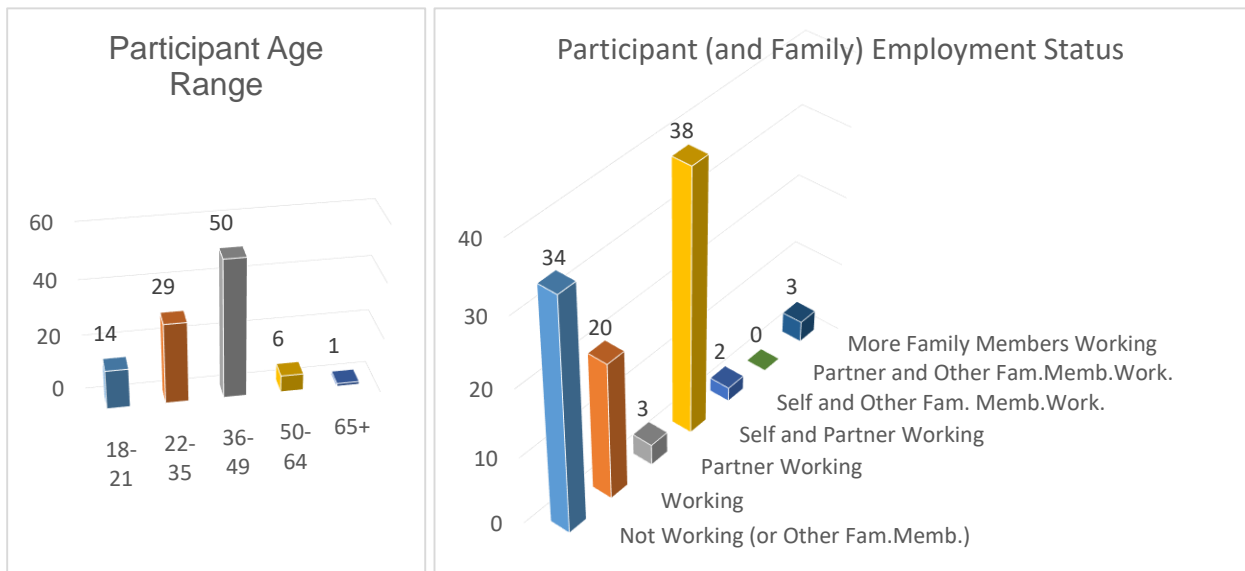
## 2. METHOD

In this study, the satisfaction of the residential users with their existing houses, whether they get efficiency from the use of the spaces in their houses during the closures during the pandemic process and the widely applied remote working processes, what kind of spatial changes and changes in their new houses will be made if they are going to make changes in their existing houses, what these might be, and if they will move to a new house with the experience of this process. It will be possible to examine the effects of the pandemic process on spatial qualifications by questioning whether they want the add-ons to be. As a result of these examinations and evaluations, it will be possible to determine the elements that should be considered in the design of the architectural profession and architectural education and that can be included in the design processes in the future, with user satisfaction and expectations, and to be integrated into architectural education. Within the framework of the answers received from the participants who responded to the survey form link shared on the internet by the researcher, permission was obtained to use the data of the users in an anonymous survey that they did not personally identify in case they participated.

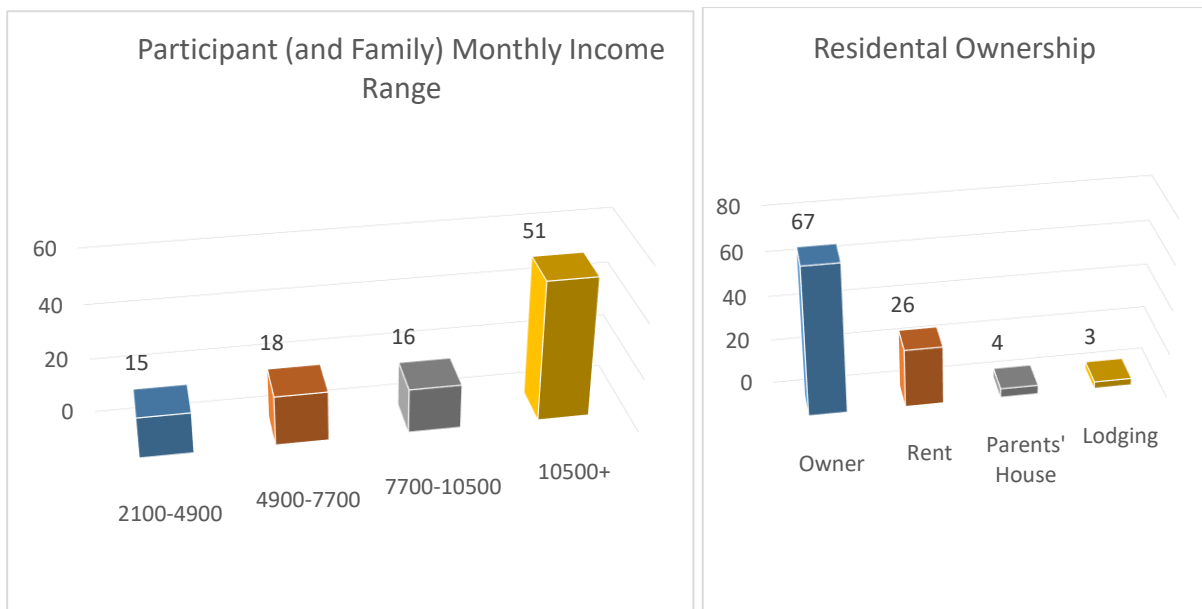
In the first 3 parts of this survey, participants were asked about general questions about their current residences and general information about households, In 4<sup>th</sup> part of the survey the level of satisfaction in the usage process and the extent to which it is sufficient to meet the changing needs were questioned. In 5<sup>th</sup> part of the survey, it was questioned what kind of changes and improvements the participant would propose in case they get the opportunity to re-design their existing residences. The final questions asked were about the *“Adequateness of Your Housing Before / During / After the Pandemic”* (Figure 12) In 6<sup>th</sup> part of the survey, the participants were questioned about what kind of spaces they would care about, according to their current residences, in case they can move to a new residence. In the last part, a short opinion about the satisfaction of their residences during the global epidemic, and other suggestions and expectations were questioned.

### 3. EVALUATIONS

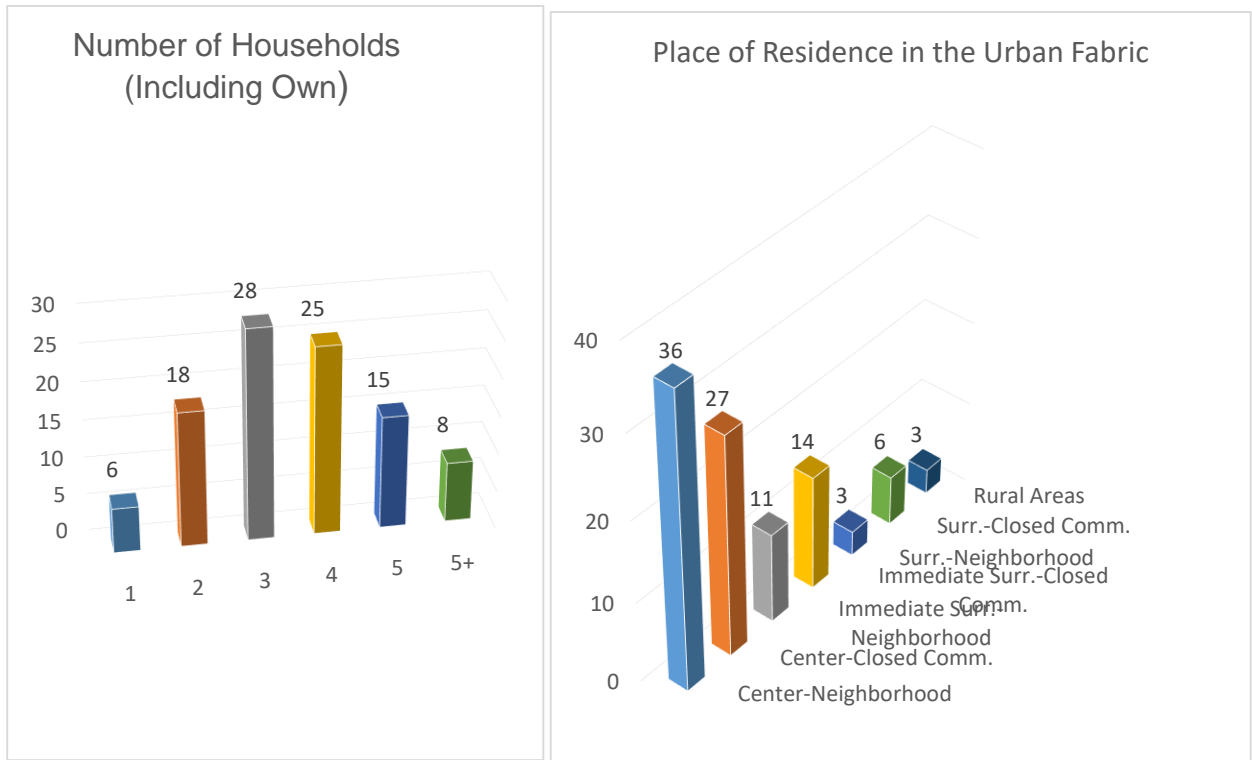
Participating 100 people were asked about age range, participant and family employment, participant (and family) monthly income range, residential ownership, number of participating households (including own), place of residence in the urban fabric, type of residence, number of residential floors, residential area distribution (room + living room), residential square meters (net) and residential garden use. (Figure 1 to 11)



**Figure 1.** Age Range of the Participant / **Figure 2.** Work Status of the Participant (and Family)



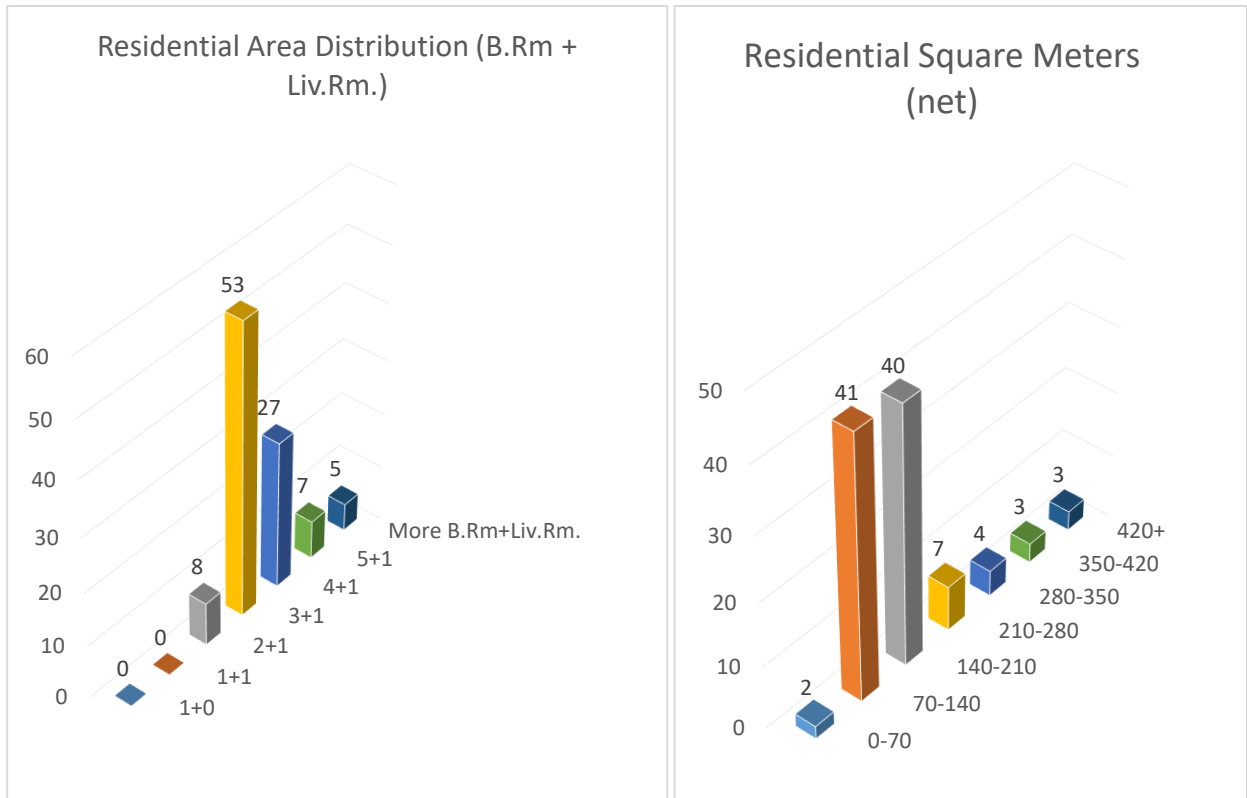
**Figure 3.** Participant (and Family) Monthly Income Range / **Figure 4.** Residential Home Ownership



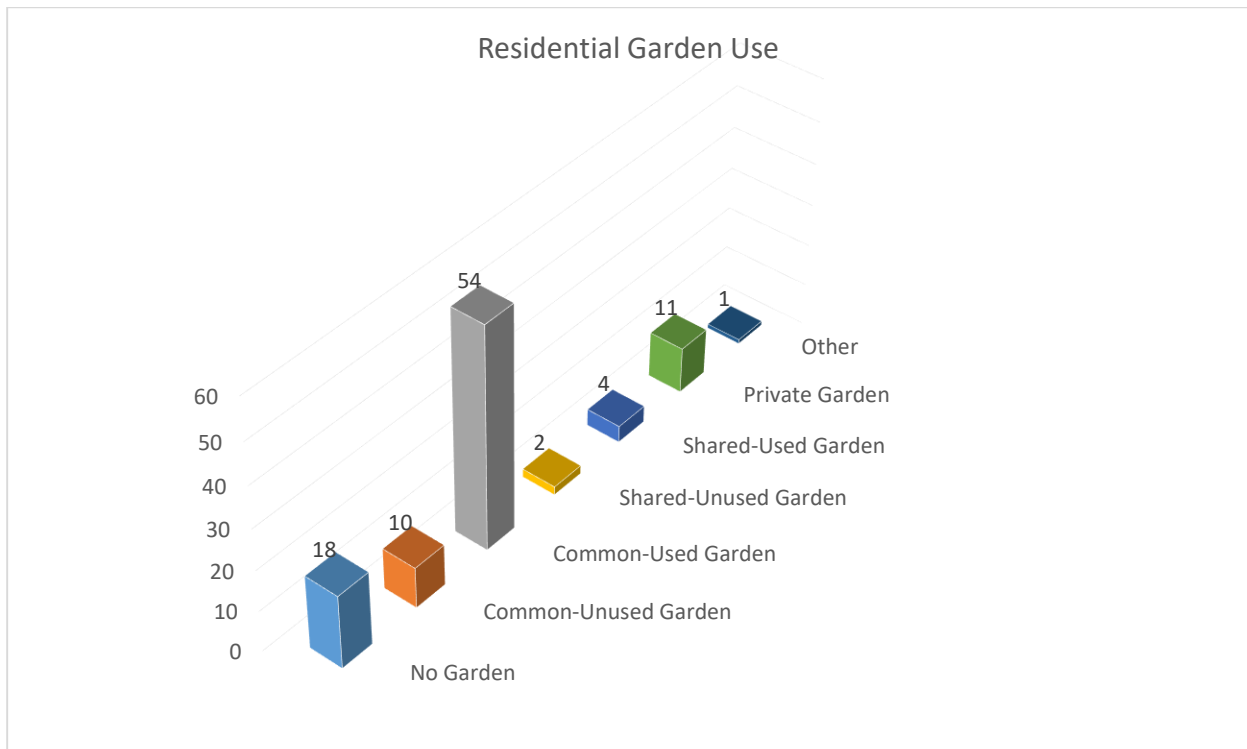
**Figure 5. Number of Households (Including Own) / Figure 6. Place of Residence in Urban Fabric**



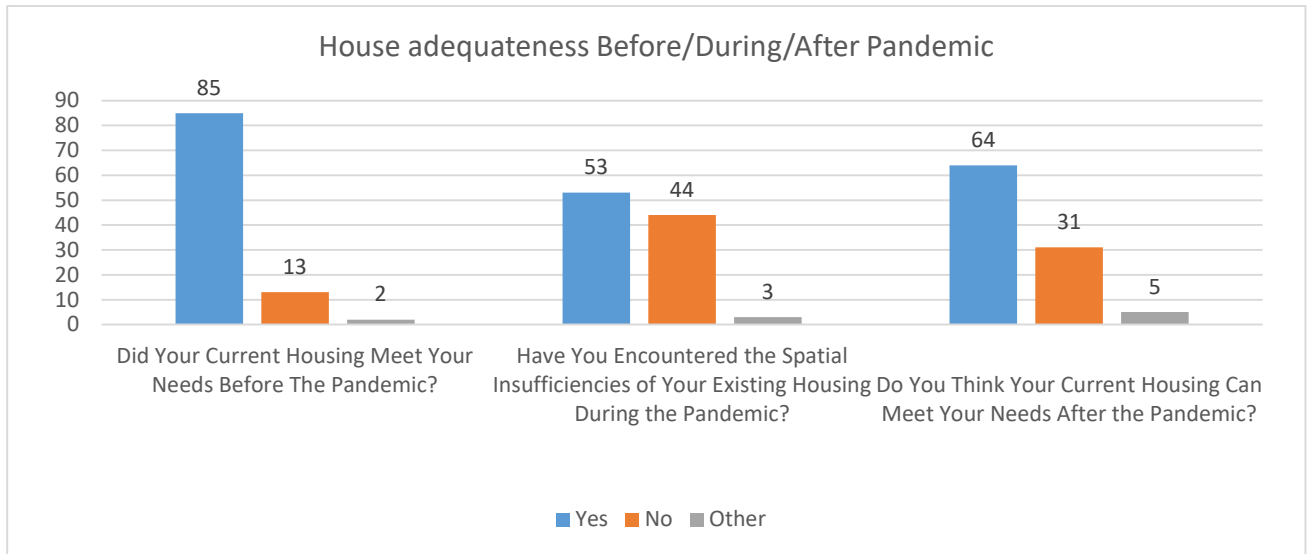
**Figure 7. Type of Residence (according to connections)/ Figure 8. Number of Residence Floors**



**Figure 9.** Residential Area Distribution (Room + Living Room) / **Figure 10.** Residential Square Meters (net)



**Figure 11.** Residential Garden Use



**Figure 12.** Adequateness of Your Housing Before / During / After the Pandemic

It is understood that 85% of the participants are in the working age range (Figure 1), 73% of the participants and/or someone else from the family is from the working segment (Figure 2). The family total income level of the participants is 68% higher (Figure 3). It was understood that 67% of the participants were homeowners. (Figure 4) 28% of the participants have 3 people living at home, and 25% have 4 people living at home. (Figure 5) 63% of the participants live in the city Center, 25% of them live in the vicinity of the city. Again, 47% of the participants live in the neighborhood and 41% live in the Site. (Figure 6) 89% of the participants live in an apartment. (Figure 7) 82% of the participants' residences are multi-story apartments (Figure 8). 53% of the participants live in 3-1, 27% 4+1 rooms and living rooms (Figure 9). It is seen that 41% of the participants live in houses of 70-140 m<sup>2</sup> and 40% of them live in houses of 140-210 m<sup>2</sup>. (Figure 10). It is seen that 54% of the participants live in houses with a communal garden. (Figure 11).

A final question about the adequateness of their homes before, during and after the pandemic has been asked to the participants. It has been revealed that the participants, who stated that they were generally (85%) satisfied with their pre-Pandemic housing. The satisfaction decreased (-44%) as they encountered problems during the Pandemic process, and the expected degree of satisfaction rate from their current housing after the pandemic ends, has decreased (-21%). (Figure 12).

In this context, the satisfaction of the participants with respect to each functional space regarding their current residences and their thoughts on changes if possible were evaluated in the next section, according to the results of the surveys.

In the 4<sup>th</sup> part of the questionnaire, the users' satisfaction with the use of the spaces in their existing residences was questioned separately in eight types of spaces that were separated according to their functions. In this sense, spaces inside and around the residence.

1. Open spaces: level of satisfaction with spaces such as common garden, shared garden with neighbor or private garden
2. Indoor connected outdoor spaces: satisfaction level of spaces such as balcony, veranda, or terrace
3. Living spaces: level of satisfaction with spaces such as living room, tv room, or saloon
4. Study areas: level of satisfaction with spaces such as study room, hobby room, or atelier
5. Sleeping areas: level of satisfaction with spaces such as bedroom, children's bedroom, or another bedroom
6. Service areas: level of satisfaction with spaces like kitchen, breakfast room, or dining room

7. Cleaning areas: level of satisfaction with places such as toilet, bathroom or washing / ironing / drying rooms.
8. Storage areas: the level of satisfaction with spaces such as cellars, wardrobes or basement / attic rooms & areas was questioned.

Question asked regarding the pandemic process: Which Spaces Did You Use with What Level of Satisfaction During the Usage Process in Your Current Housing? Feedback was received with responses as (0: Not Available, 1: Not at all Satisfied 2: Partially Dissatisfied / 3: Neutral / 4: Partially Satisfied / 5: Very Satisfied).

In the 5<sup>th</sup> part of the questionnaire, the changes that the users would like to make in the spaces in their current residences were questioned separately in eight types of spaces that were separated according to their functions in the houses. In this sense, spaces inside and around the residence.

1. Open spaces: changes to be made in spaces such as common garden, shared garden with neighbor or private garden
2. Indoor connected outdoor spaces: changes to be made in places such as balcony, patio, or terrace
3. Living spaces: changes to be made in spaces such as living room, television room, or saloon
4. Work areas: changes to be made in spaces such as study room, hobby room, or atelier
5. Rest areas: changes to be made in spaces such as bedroom, children's bedroom, or another bedroom
6. Service areas: changes to be made in places such as the kitchen, breakfast room, or dining room
7. Cleaning areas: changes to be made in places such as toilets, bathrooms or washing / ironing / drying rooms
8. Storage areas: changes to be made in places such as cellars, wardrobes or basement / attic rooms & areas were questioned.

Question asked about the pandemic process: If you had the chance to redesign your own home, what level would you make in which places? Feedback was received with answers such as (0: I would Add +1 Space, 1: I would make extensive changes 2: I would make extensive additions 3: I would make partial changes / 4: I would make partial additions / 5: I would leave it as it is).

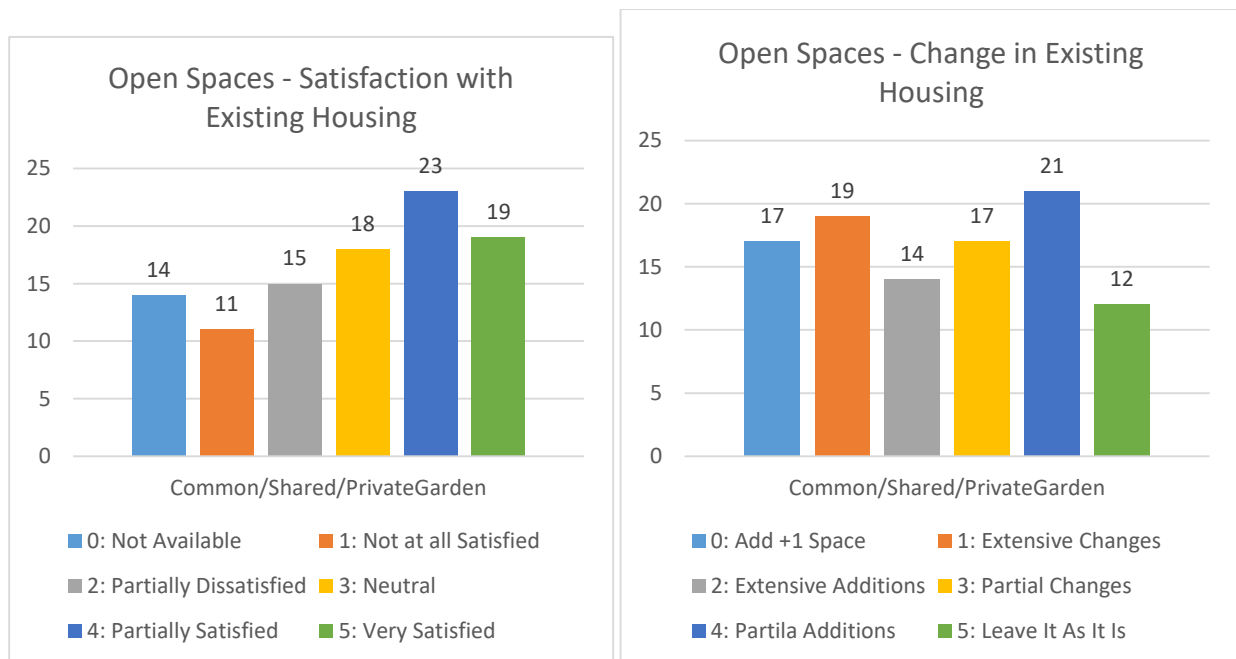
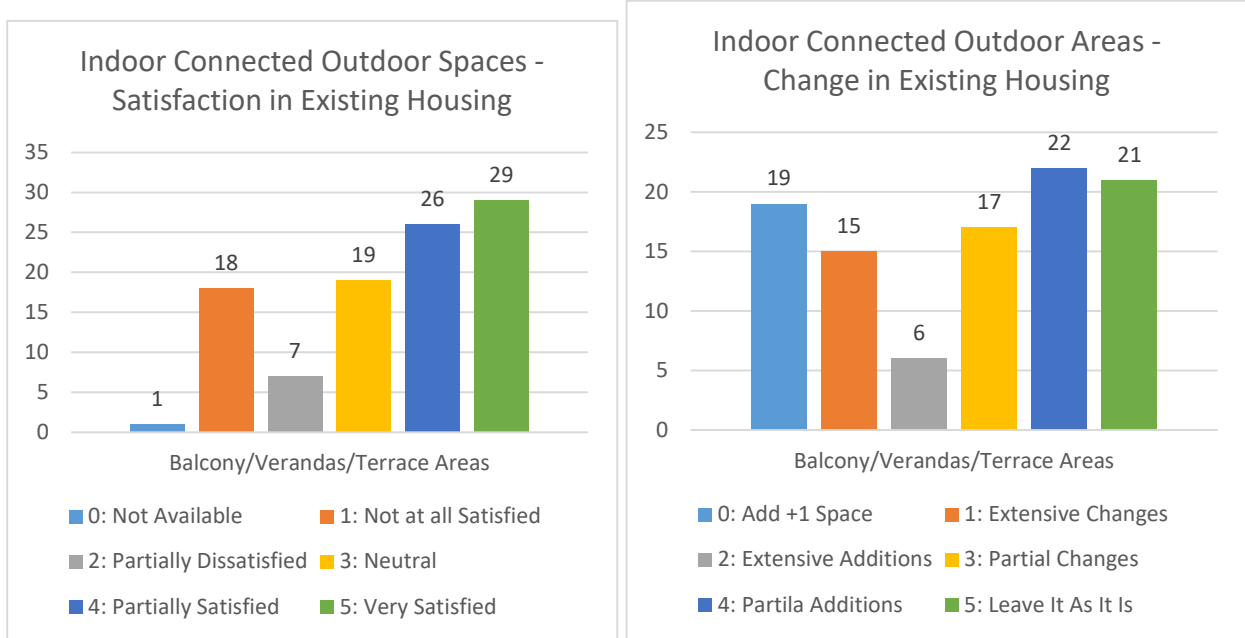


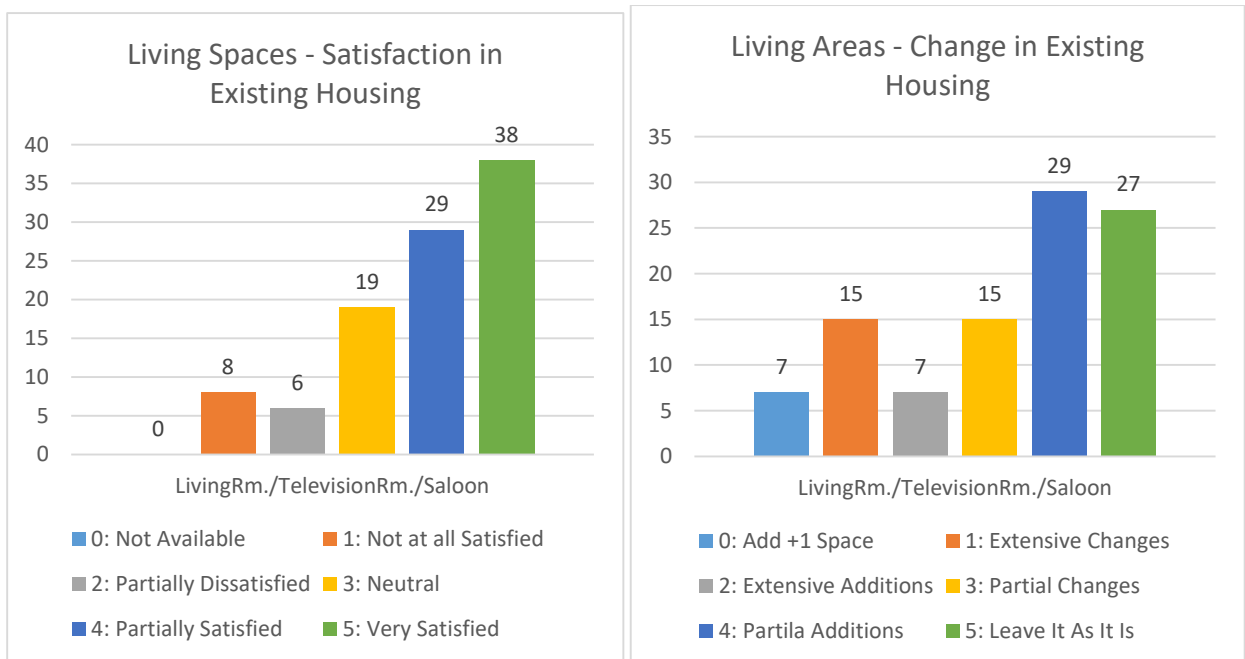
Figure 13. Open Spaces-Satisfaction/Change in Existing Housing

It was observed that the participants did not have a common garden/shared garden with neighbor/ private garden at the rate of 14% or they were not satisfied with the rate of 26%. As a change in this regard, while there was 17% intention to add +1 space among them, only 12% were in favor of keeping it as it was. (Figure 13).



**Figure 14.** Indoor Connected Outdoor Areas-Satisfaction/Change in Existing Housing

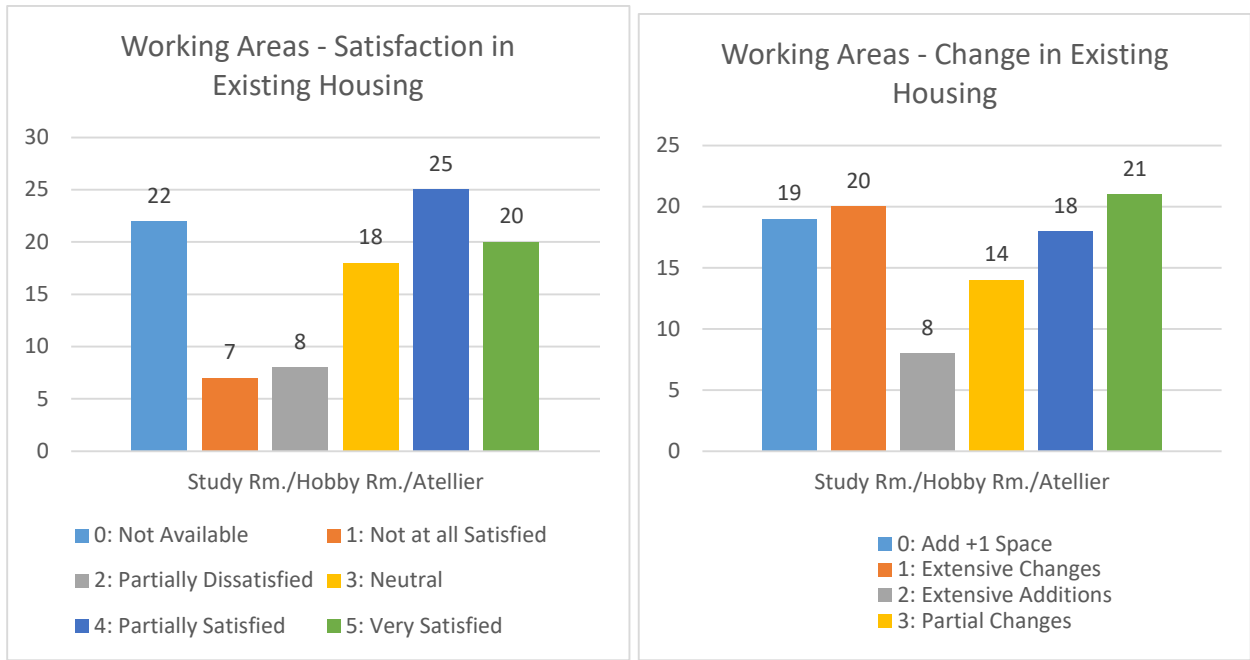
Although only 25% of the participants are dissatisfied with the balcony/patio/terrace areas in their existing buildings, it is seen that 19% want to add to them if there is an opportunity to make changes (Figure 14).



**Figure 15.** Living Spaces-Satisfaction/Change in Existing Housing

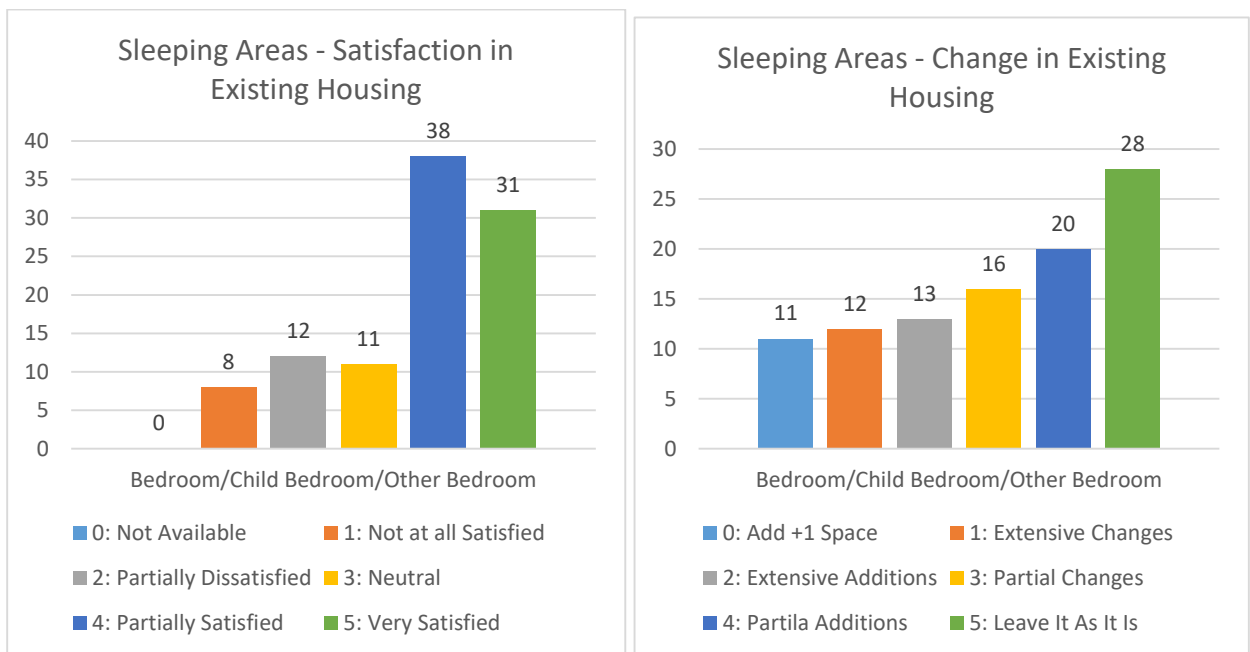
It was seen that the participants are mostly satisfied with their living spaces. With partial changes and additions, there has been a tendency to maintain spatial use in existing residences. (Figure 15).





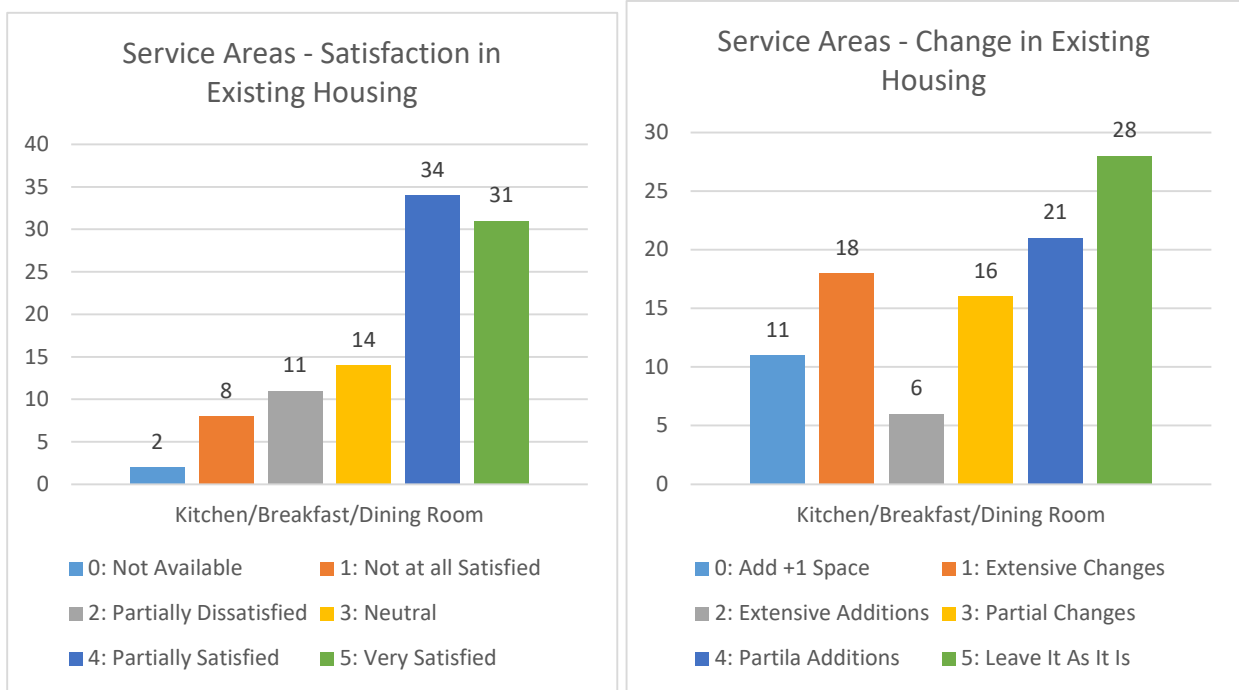
**Figure 16.** Working Areas-Satisfaction/Change in Existing Housing

They suggested adding a space to their workspace or making extensive changes in the case that the participants felt a great lack of working areas in the residence and if they had the opportunity to make changes in their existing residences. (Figure 16).



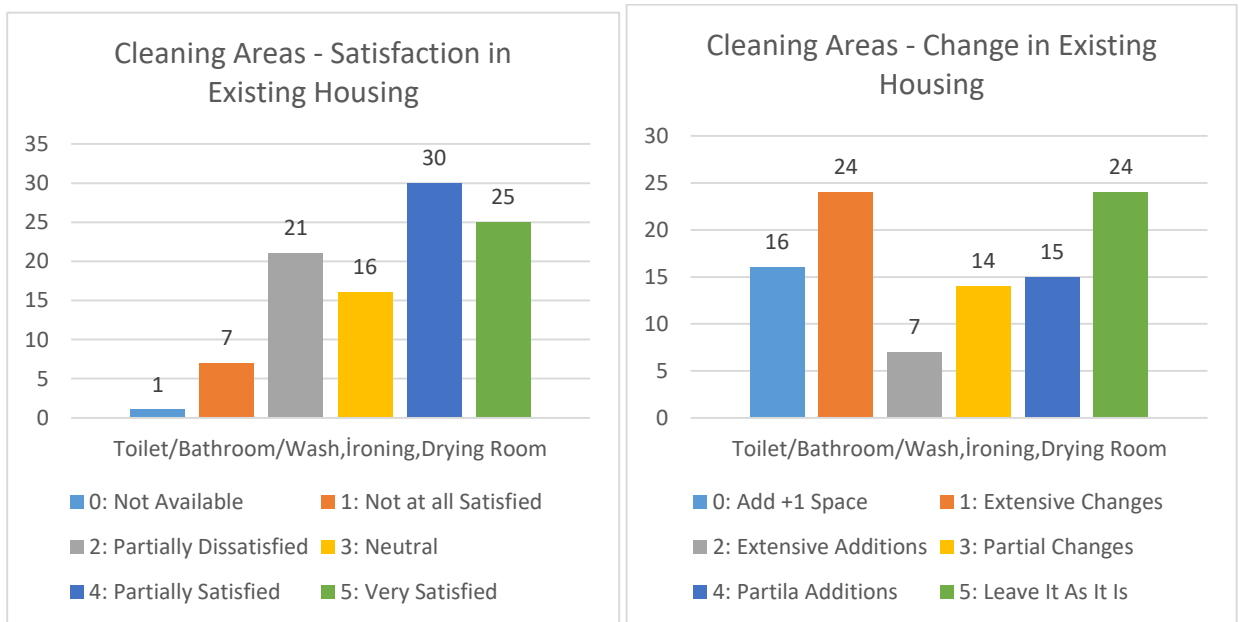
**Figure 17.** Sleeping Areas -Satisfaction/Change in Existing Housing

It was understood that the participants are mostly satisfied with the Sleeping Areas. However, the rate of those who want to add +1 space-if possible, was also seen as 11% (Figure 17).



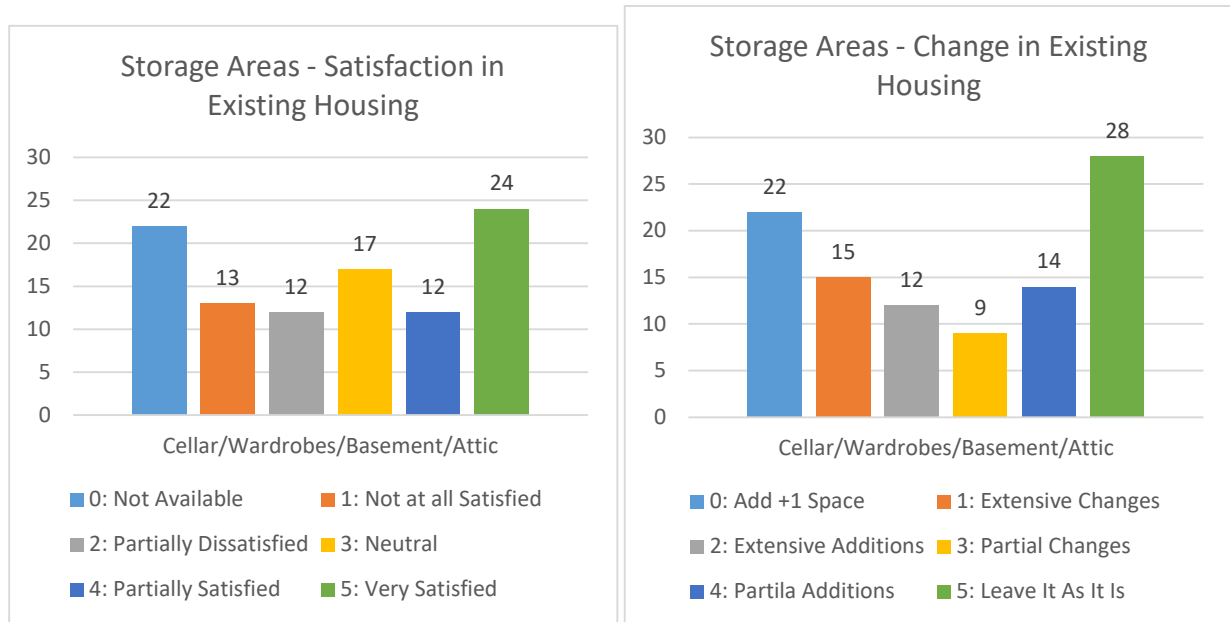
**Figure 18.** Service Areas-Satisfaction/Change in Existing Housing

It was understood that the participants are mostly satisfied with the kitchen and dining rooms. In case of a change, 18% stated that they would do comprehensive changes if possible. The rate of those who would like to add +1 space was also seen as 11% (Figure18).



**Figure 19.** Cleaning Areas-Satisfaction/Change in Existing Housing

Although the satisfaction rate with the Cleaning Areas were high, the rate of those who would like to add +1 space-if the opportunity arises-was 16% and the rate of those who would like to make extensive changes was seen as 24% (Figure 19).



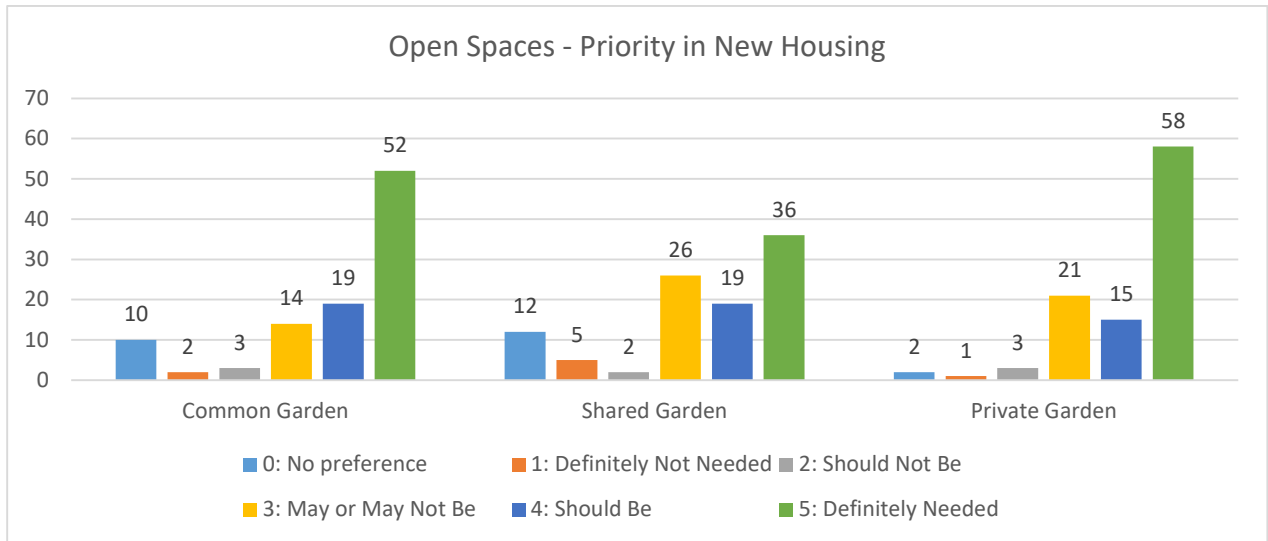
**Figure 20.** Storage Areas-Satisfaction/Change in Existing Housing

The participants stated that they felt 22% lacking in areas such as cellars/Storages and that 22% percent would add if they had the opportunity to add +1 space (Figure 20).

In the 6<sup>th</sup> section of the survey, the “Priorities of expectations of the users in case of moving to a new housing” were questioned separately in eight types of spaces separated according to their functions within the houses. In this sense, spaces inside and around the residence were classified as follows.

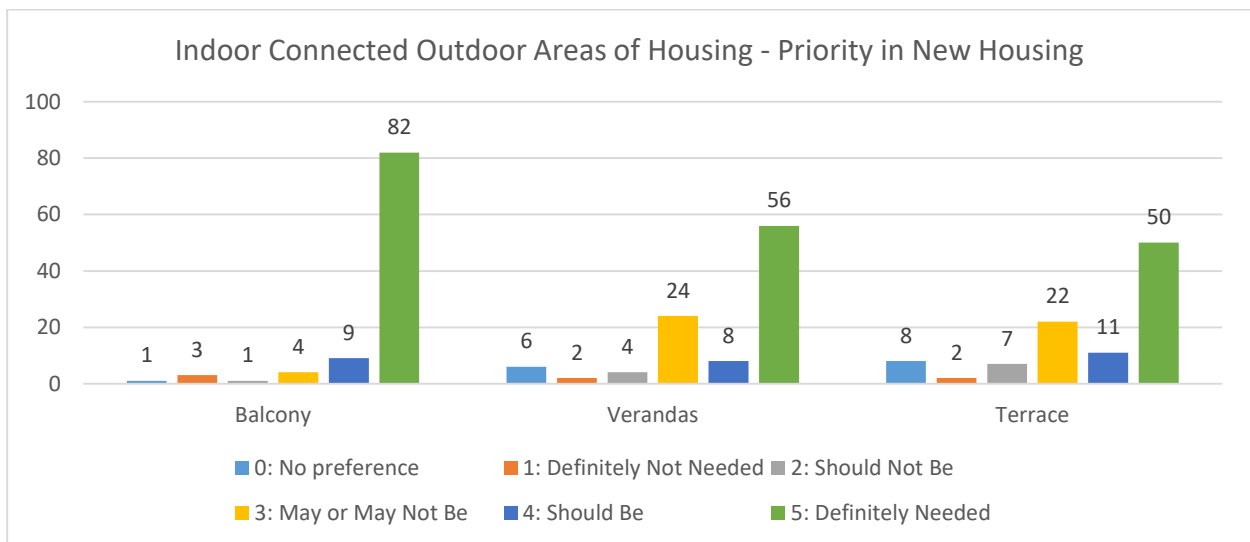
1. Open spaces: the importance of the existence of each of the spaces such as the common garden, shared garden with the neighbor or private garden
2. Indoor connected outdoor spaces: the importance of the existence of each of the spaces such as balconies, verandas, or terraces separately
3. Living spaces: the importance of the existence of each of the spaces such as the living room, television room, or saloon separately
4. Working areas: the importance of the existence of each space such as a study room, hobby room, or atelier separately
5. Sleeping areas: the importance of the existence of each of the spaces such as bedroom, children's bedroom, or other bedrooms separately
6. Service areas: the importance of the existence of each of the spaces such as the kitchen, breakfast room, or dining room separately
7. Cleaning areas: the importance of the existence of each of the places such as toilet (more than 1), bathroom (more than 1) or washing / ironing / drying room
8. Storage areas: the importance of separate existence of spaces such as cellars, wardrobes or basement / attic rooms & areas.

The question asked about the post-pandemic process: What is the importance of each sub-space in the new house to be bought/rented? Feedback was received with answers such as (0: No preference 1: Definitely not 2: May not be / 3: Whether it is possible or not / 4: It should be / 5: It should definitely be).



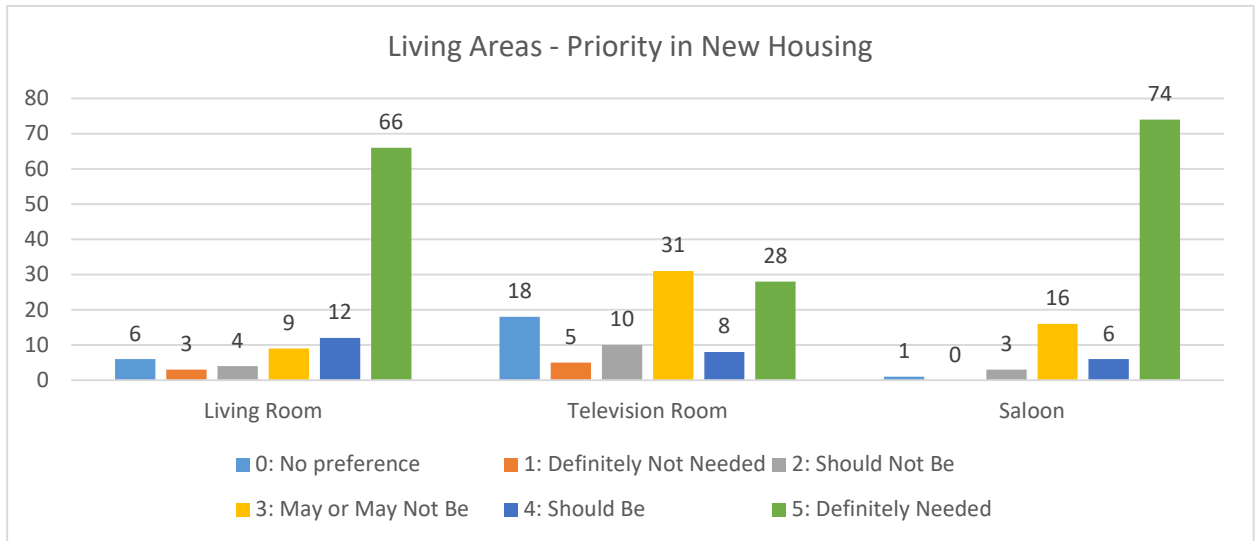
**Figure 21.** Priority of Open Spaces-New Housing

It was considered important to have a garden of its own when moving to a new residence. (Figure 21) However, it is frequently mentioned in other suggested places under the name of “winter garden”.



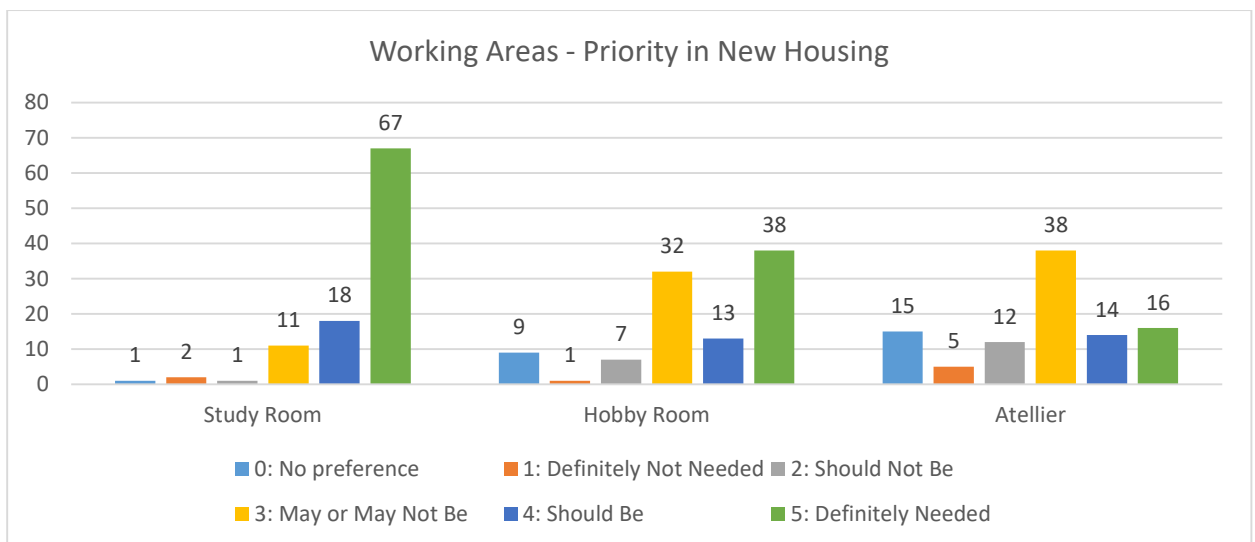
**Figure 22.** Indoor Connected Outdoor Areas of Housing-Priority in New Housing

It can be seen from the answers given that there is a great need for a balcony, patio or terrace area that belongs to the house and is connected to the outside. (Figure 22). In addition to this, the expectations for residential exteriors under different names are also listed in the other suggestions section.



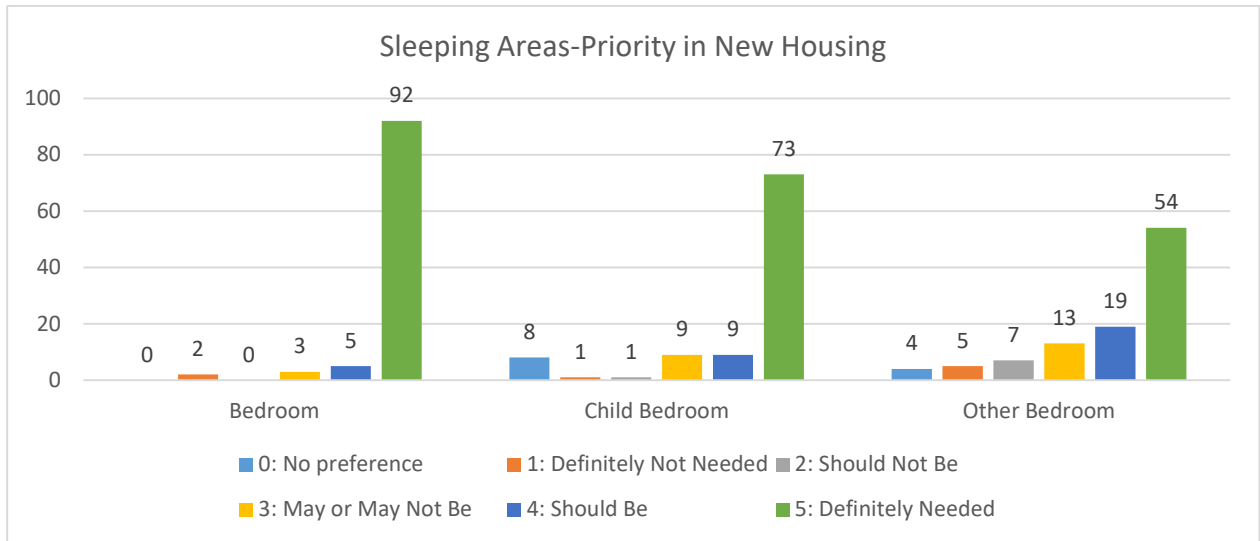
**Figure 23.** Living Areas-Priority in New Housing

It is understood that the television room, which was once indispensable in expectations regarding living spaces, lost its importance (Figure 23).



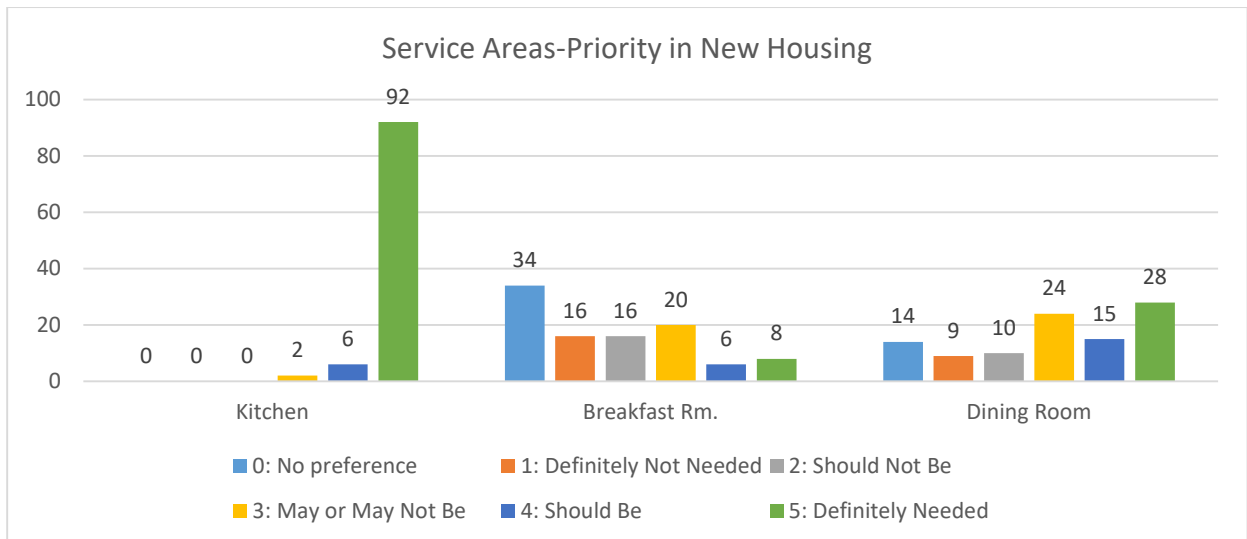
**Figure 24.** Working Areas-Priority in New Housing

In this pandemic, where a separate study room is also necessary at home, it has shown its importance in cases where it is necessary to work from home. (Figure24). It has also been observed in the other suggestions section that a hobby room and workshop are sought after in a new house to be purchased.



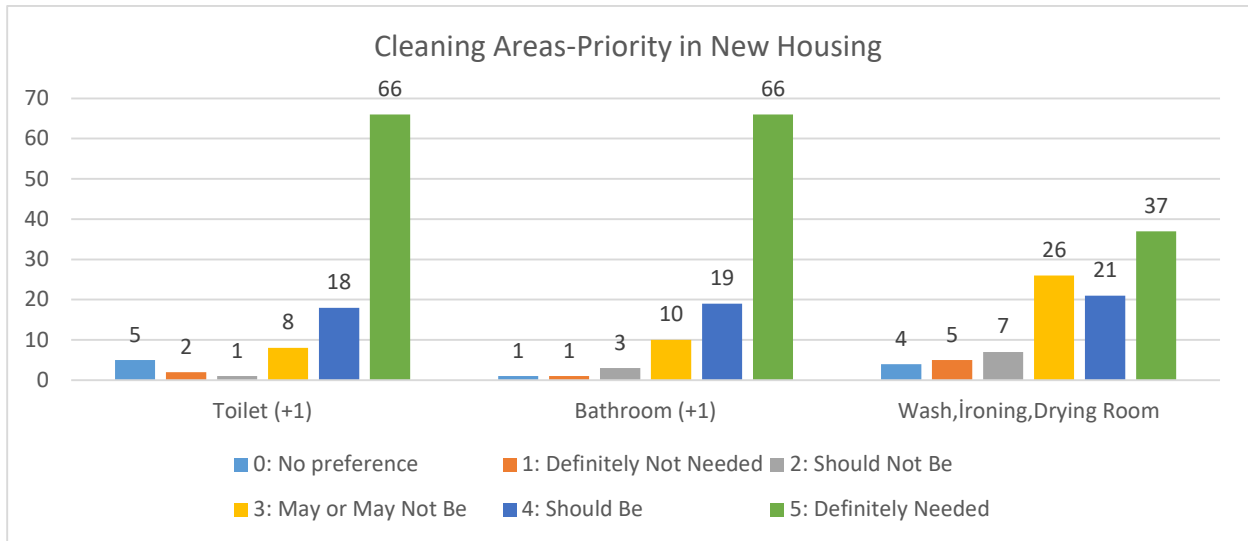
**Figure 25.** *Sleeping Areas-Priority in New Housing*

In the rest areas, the "other bedroom" option is also expected in a new residence, not to be counted. (Figure 25).



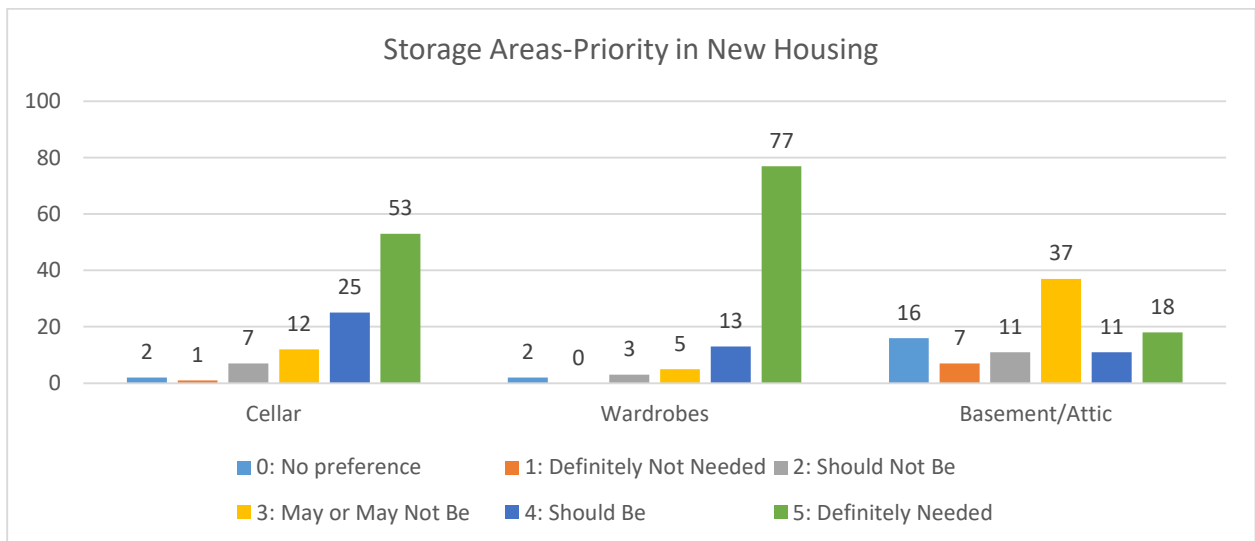
**Figure 26.** *Service Areas-Priority in New Housing*

Considering the data from the other suggestions section regarding the width of the kitchen area, it is understood that a private breakfast room is not desired, but a dining room is still considered possible. (Figure 26)



**Figure 27.** Cleaning Areas-Priority in New Housing

It was considered important that the number of toilets and bathrooms is more than one. Likewise, based on what was stated in the other suggestions section, it was not suggested that the dimensions of such spaces should be large. Having a room for laundry, ironing and drying was considered important in a new house. (Figure 27).



**Figure 28.** Storage Areas-Priority in New Housing

It was seen that the need for pantry and cabinet in a new residence is high in residences. (Figure 28) In the other suggestions part, it was suggested that the cabinets should be in large numbers in the dwelling.

The last part of the questionnaire was an open-end question asking the priorities of the participants when they choose their new residences. The answers were prioritized as follows:

1. The need for a covered parking space for vehicles, also suitable for bicycle, electric scooter etc. is often noted.
2. It is suggested that multiple functions can be enabled in the spaces. Having a self-sufficient room with everything during the quarantine period was also among the suggestions. In this sense, considering that a room cannot be allocated to this task alone, the importance of a functional design in changeable spaces is emphasized once again.

3. Another frequently mentioned type of space was the Winter Garden. It is recommended that this type of garden differs from a balcony or terrace to be closed and especially suitable for growing plants.
4. Another prominent type of space is the sports area, and it has emerged as a necessity to organize an area for the placement and permanent stopping of sports equipment. Parallel to this, another request was stated as a walking track.
5. Arrangement of special areas for animals is also suggested. In this sense, the need for a special area for the pets of the participants living in the apartment has increased even more during the pandemic.

## **5. CONCLUSION**

Although the pandemic is not a predictable situation, it has led people to question their current residences and working areas with its social and spatial effects. It has brought with it an important challenge in terms of social health and sustainable health services, and it has revealed the importance of taking measures for all users with spatial arrangements as well as personal precautions.

It has caused people to face their problems related to their existing houses and to directed to new spatial arrangements according to new domestic activities. In the answers given to the questionnaires, it was seen that the quality and quantity of the separated working spaces in the house and the outdoor and indoor open spaces connected with the green should be increased.

However, in terms of architectural profession and architectural education, it has become necessary to teach designers and our students to construct changeable and transformable spaces with a flexible perspective in their new projects. In addition, it is necessary to teach that not only our residences, but also all our buildings should be designed with social distances, emergency quarantine situations, natural lighting and ventilation and designed with spatial layout and heights that will not pose an additional risk in terms of health.

At the end of this whole process, what should not be ignored should be the following. When the effects of the pandemic pass and people start to return to normal life, the answers to the spatial problems of the pandemic period should not be forgotten and we shall not be caught unprepared again in the next emergency. With the end of the Pandemic, which is a compelling process in professional and human terms, and the recovery of normal life, it is equally important to reflect the lessons learned in this process without being forgotten in architectural education.

## **CONFLICTS OF INTEREST**

No conflict of interest was declared by the author.



**REFERENCES**

- [1] Demirarslan, D., Demirarslan, O., (2021), A Study On Determining The Need For Use Of Outdoor Spaces In Houses During The Covid-19 Pandemic Period, Sosyal Bilimler Dergisi / The Journal of Social Science, Yıl: 8, Sayı: 50, Şubat 2021, s. 1-25
- [2] Gali Taşçı, G. (2020). Rezidanslarda Konfor Koşullarının Pandemi Dönemi Etkisinde Analizi, Kent Akademisi, Volume, 13 (43), Issue 4. Pages, 701-721, <https://dergipark.org.tr/en/pub/kent/issue/57293/813526>
- [3] Karataş, Z. (2020). COVID-19 Pandemisinin Toplumsal Etkileri, Değişim ve Güçlenme. Türkiye Sosyal Hizmet Araştırmaları Dergisi 4(1), 3-15
- [4] <https://www.re-thinkingthefuture.com/designing-for-typologies/a4870-strategies-for-residential-design-post->
- [5] [https://www.re-thinkingthefuture.com/designing-for-typologies/a4871-office-design-strategies-for-a-post-covid-world/?utm\\_source=hootsuite&utm\\_medium=&utm\\_term=&utm\\_content=&utm\\_campaign=](https://www.re-thinkingthefuture.com/designing-for-typologies/a4871-office-design-strategies-for-a-post-covid-world/?utm_source=hootsuite&utm_medium=&utm_term=&utm_content=&utm_campaign=)
- [6] <https://www.newyorker.com/culture/dept-of-design/how-the-coronavirus-will-reshape-architecture?fbclid=IwAR3S-cXjoja9y75OcIJSBPjTKlvWTekdk4Edi3XxAMhhEt546xbbYY4dgaY>
- [7] [https://www.arkitera.com/haber/asi-sonrasi-mimarlik/?fbclid=IwAR3cdFKf-VSdM-\\_hIDMwoLORopEFRtxsOMndr2QyIgfFa5aHSqTMu2F4KoF0](https://www.arkitera.com/haber/asi-sonrasi-mimarlik/?fbclid=IwAR3cdFKf-VSdM-_hIDMwoLORopEFRtxsOMndr2QyIgfFa5aHSqTMu2F4KoF0)
- [8] [https://www.dezeen.com/2020/06/22/cubicle-post-coronavirus-office-form4-architecture/?fbclid=IwAR1A0TeHHewRL81Bg20XsKz6exCzmuKxsZ5opvIhTaYcG\\_psxvasg2KEPTU](https://www.dezeen.com/2020/06/22/cubicle-post-coronavirus-office-form4-architecture/?fbclid=IwAR1A0TeHHewRL81Bg20XsKz6exCzmuKxsZ5opvIhTaYcG_psxvasg2KEPTU)