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RESIDENT ADAPTATION AND HOUSING ADJUSTMENT DURING THE COVID-19 PANDEMIC IN INDONESIA

Setiadi, A.[1*], Rudwiarti, L.A.[2], Wardhani, M.K.[3] & Rahayu, T.E.[4]
[1,2,4] Department of Architecture, Universitas Atma Jaya Yogyakarta, Indonesia;
[3] Research Organization of Open Innovation & Collaboration, Ritsumeikan University, Japan

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ABSTRACT

The purpose of this research is to analyze resident's adaptation and housing adjustments in accordance with the implementation of the stay at home policy by the Indonesian government during the pandemic. This is a quantitative research with data obtained from respondents using a questionnaire. Data were collected to determine public opinion using a survey method, such as a questionnaire due to the inability to carry out direct and face-to-face interviews during the pandemic. Respondents' opinions were discussed with contingency coefficient analysis and explained descriptively. The result showed that residents adjusted to working and studying from home via online. Most of the adjustments took place in self-owned houses. A significant number agreed to receiving guests and holding community meetings at home by adjusting the terrace and implementing social distancing. Most respondents have adequate awareness of implementing health protocols to limit the spread of COVID19 in their homes, such as by creating space. Residents make adaptations in response to threats to health, welfare, and comfort during the pandemic. Adjustment of housing space is carried out for awareness and the existence of a health protocol that needs to be met. The more complex the requirements, the more varied the adjustments.

1. INTRODUCTION

The COVID-19 pandemic is an outbreak with a high risk of being transmitted to humans. Restrictions on social contact and participating in activities outside the home are some of the preventive efforts implemented by the Indonesian government (Bandeira et al., 2019). In the Philippines, restrictions on activities outside the home become an important issue during the pandemic (Cahapay, 2020). According to Banerjee et al., (2020), the stay-at-home policy significantly increased depression cases due to feelings of loneliness, stress, sadness, and anxiety. Furthermore, mobility restrictions during the pandemic limited peoples' movement to places, such as work, schools, neighbors' houses, recreation centers, and other public services, which limited the spread of the virus (Howe & Hall, 2020). However, low-income people had difficulty complying with these policies. Therefore, to improve compliance with mobility restrictions, it is necessary to pay attention to community participation and improve communication in formulating policies (Bouye et al., 2009).

Restrictions on activities outside the home during the COVID-19 pandemic led to the loss of jobs and a decrease in working hours (Li & Mutchler, 2020). The majority of people experienced a decline in income, saving expenses for more than six months. Thinagar et al., (2021) stated that most people experienced a decline in income and saving expenses due to the restrictions, which tends to increase poverty, crime rates, and impaired mental health. However, irrespective of these disadvantages, it is imperative for people to adhere to these restrictions, especially those with other acute and chronic health conditions (Said et al., 2020). According to Morrow-Howell et al., (2020), mobility, social distancing, and quarantine at home tend to affect health. Saraiva et al., (2021) stated that mobility restriction is also considered a sudden limitation of living space and is likely to continue over the next few months (Deloitte, 2020). The COVID-19 pandemic promotes people to take the initiative to increase their sense of security in responding to the recovery period

*Corresponding author: amos.setiadi@uajy.ac.id

(Sharifi & Khavarian-Garmsir, 2020). This virus brought changes both directly and indirectly to the infected community and became the main focus of government policies related to handling the impact of the pandemic. The policy of handling the pandemic in the housing sphere is an important factor in reducing its spread (Horne et al., 2020).

The rapid spread of the virus in early 2020 led to the gosvernment's restrictions on social interaction activities (Mendolia et al., 2020). Human mobility is related to the quality of life (Webber et al., 2010), therefore restrictions are considered to be the cause of reduced quality of life (Said et al., 2020). Conversely, housing is the safest place during the pandemic, especially with access to environmental facilities accessible on foot. The government also restricted the use of public transportation due to the risk of transmission from the workplace, shops, and social gatherings (Litman, 2021). The term "social distancing" is used to appeal to the public to self-quarantine by staying some meters away from other people and avoiding unnecessary travel (Arimura et al., 2020). Research has shown that self-quarantine at home tends to changes the dynamics of living spaces and the rhythm of domestic activities.

Restricting people to stay at home encourages problems and challenges (Rogers & Power, 2020). Therefore, adjustment of housing space and the quality of its environment need to be considered during a pandemic, such as the determining the number of residents and available facilities. Self-quarantine at home and social distancing restrictions are effective policies implemented by the government to limit the spread of the virus (Oluwatosin et al., 2020). The COVID-19 pandemic is associated with diverse health, social and economic risks globally (Rogers & Power, 2020). Occupancy conditions also determine the risk, and the quality of housing conditions plays an essential role in determining the residents' health. According to Bonnefoy (2007), the home also influences psychosocial and mental well-being. Therefore, it is important to enforce public health regulations and protocols in houses to prevent the spread of infection during a pandemic (Nyashanu et al., 2020). The COVID-19 pandemic has awakened the importance of the role of architecture and urban studies in dealing with the emergence of subsequent viruses (Rogers & Power, 2020).

In conditions of community mobility restrictions, a public service system capable of serving the various citizens' needs, such as an online shopping application, is needed, especially during a pandemic (Serafimova, 2020). During the pandemic, the house becomes a space accommodating activities that were carried out in other places, such as work and school activities. Rambøll (2020) stated that the importance of the house has shifted from a 'private space' to a 'safe space' in control of the possible dangers of viral infection.

Furthermore, people are required to be able to adapt to changes in the new normal which are currently occurring globally. To adapt, the local wisdom possessed by the community contributes positively to resilience in the face of changes in the order of life (Kurniawan, 2020). The resilience concept to pandemic risk promotes the development of housing planning strategies and covers various aspects (Shama & Motlak, 2020). During the pandemic, housing is an important element (strength) in response planning in each region. Management planning strategy focuses on building resilient, socially inclusive, and sustainable communities (UNESCO, 2020).

2. BACKGROUND LITERATURE REVIEW

Local wisdom is practiced in handling the impact of a crisis, mitigation, emergency phase response, and recovery period (Zulfadrim et al., 2018). One form of local wisdom in overcoming the impact of the crisis in Indonesia is gotong royong (mutual cooperation), which is an activity of mutual assistance carried out by the community in an area, especially in times of crisis. Self-quarantine at home and maintaining social distance during the COVID-19 pandemic reduces mutual cooperation activities. This is because it involves large numbers of people and crowds, making them vulnerable to contracting the virus.

Self-quarantine at home considers the quality of spatial housing planning that supports the residents' activities, especially in terms of working and studying. According to (Eltarabily & Elghezanwy, 2020), spatial housing planning needs to pay attention to the organization. Eltarabily & Elghezanwy (2020), further stated that the COVID-19 pandemic has made architects aware of the importance of a smart, sustainable, and comprehensively designed residential environment. These factors are expected to make housing responsive to future crises.

The COVID-19 pandemic has made architects aware that housing acts as an independent entity in the event of a crisis. According to Ateek (2020), the sustainable design creates healthy housing, reduces environmental impact, and helps prevent infectious diseases. Furthermore, the pandemic has brought about a change in the view that the need for a healthy and comfortable living space is very important for mental and physical well-being (Tokazhanov et al., 2020). Housing has the ability to become healthy shelters for residents through the use of technology and good sanitation to reduce the possibility of viral infections and gardens to help with recovery (Tokazhanov et al., 2020). It plays an essential role during mobility restrictions where people are required to stay at home to prevent further spread of the virus, thereby prompting a rethink on how it needs to be designed for future pandemics (Tokazhanov et al., 2020). The literature review outlined the importance of adjusting the residential space during the pandemic, thereby making residents feel comfortable carrying out activities at home and minimizing the spread of the virus.

Adaptation is a change in the behavioral response to suit environmental conditions, while the adjustment is a change in the environment to suit behavior. Therefore, the adaptation process occurs when organisms face environmental stimuli. Adaptation is carried out when there is an imbalance between human and environmental interactions.

Adaptation also starts from concerns on the housing environment, awareness, and responsiveness of residents that influence the ability to determine one's behavior. Based on this basis, an understanding of the housing environment allows individuals to investigate the problems around them and take action independently and collectively to improve the quality of the environment (Abu Bakar et al., 2020). The homes play a role in supporting family ties and psychological, spiritual, social, and cultural aspects. Therefore, the pandemic demonstrates the extent to which adaptation is possible while maintaining the basic role of the home and emphasizing its implicit role imposed by current and future situations (Bettaieb & Alsabban, 2020).

Research carried out by Peters & Halleran (2021) identified synergies between passive design strategies and health-promoting architecture. According to their research, there are 6 housing design priorities in the post-pandemic era, namely (1) placement of windows to support stress recovery, (2) satisfactory lighting levels, (3) bedrooms designed for residents to sleep properly, (4) living room with better air quality and focus on natural ventilation, (5) access to nature through balcony design, and (6) layout that allows physical distancing.

Several factors need to be considered in the implications of work from home culture, such as health protocols, office atmosphere, creating workspaces separate from domestic activities, and preventing the simultaneous conduction of household and office works (Mungkasa, 2020). Abdul Rahim & Hashim (2018), in their research related to the modification of terrace houses in Malaysia, found several behavioral adaptations in some aspects of Malay culture and modifications that were more supportive to the provision of a more supportive living environment. However, these adaptations had adverse effects on individuals, families, and housing communities due to terrace house design constraints.

The Public Welfare and Health Recommendations for healthy, safe, and sustainable housing are framed into the following key points: (1) Visible and accessible green elements and spaces, (2) Flexibility, adaptability, sharing, and crowding of living spaces, and appropriate functions located within the building, (3) Reallocation of basic principles and archetypes of sustainable architecture, thermal comfort and Indoor Air Quality (IAQ), (4) Water consumption and Wastewater Management, (5) Urban Solid Waste Management, (6) Automation of housing and electromagnetic fields, and (7) Indoor buildings and finishing materials (D'alessandro et al., 2020). After the pandemic, new housing designs need to be introduced with sustainability requirements with an emphasis on health and safety measures, green spaces (gardens), new touchless and better communication technologies for remote services, as well as improved light control, humidity, air quality, temperature (Kaklauskas et al., 2021). Amerio et al., (2020) carried out research related to the effect of the housing environment on mental health during the pandemic and revealed a strong association between poor housing and moderate and severe depressive symptoms. Furthermore, deteriorating performance related to working from home increased the risk of depressive symptoms.

Findings based on literature review: Residents feel the need to make simple room renovations during the pandemic. Limiting activities outside the home and working and studying at home has made the house a center of activity. The impact is increased attention to family members. This impact needs to be followed by good communication between family members not to trigger disputes. In conditions of stay at home, minor problems at home can start fights. Lower economic groups and people living in densely populated settlements are generally vulnerable to this impact. Because staying at home in a narrow house with many family members and a dense environment can be at risk of triggering

3. PROBLEMS AND STATE OF THE ART

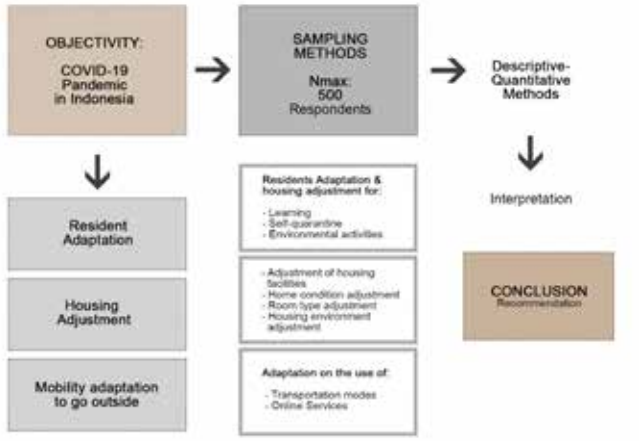
During the pandemic, the Indonesian government prioritized the limitation of large-scale social activities outside the home and encouraged residents to study and work from home. People carried out various activities from home as an option that feels safe during the pandemic. This research intends to reveal the forms of residential space adjustment by the community to support activities at home during the COVID-19 pandemic.

4. CASE STUDY AND RESEARCH METHODOLOGY

The study area is located in the Special Region of Yogyakarta and the surrounding area. The scope of the discussion and the structure of the questionnaire includes accommodation adjustments for activities: working from home, studying from home, room for self-quarantine, provision of handwashing facilities, optimizing natural air circulation in the room, using Air Conditioning, providing gardens and sports facilities at home, adjusting the physical condition of the house, adjusting the function of the room, adjusting the housing environment (restrictions on entry access, security posts, vehicle disinfection), adaptation mobility outside the home, adaptation on the use of transportation modes, and adaptation on the use of online services. Data were collected by distributing questionnaires during February - July 2021. The sampling method used in this study is non-probabilistic sampling. Each element in the population does not have the same probability of becoming a sample. The non-probability sampling technique used in this research is purposive

sampling. Purposive sampling is sampling with consideration of adjusting several research criteria to improve sample suitability. Due to the COVID19 pandemic, it is impossible to conduct a direct survey of the public, so that the questionnaire will be distributed via the internet (accessible by mobile phone, in google form format). Data were collected to determine public opinion using a survey method, such as a questionnaire in the google form format due to the inability to carry out direct and face-to-face interviews during the pandemic. Respondents' opinions were then analyzed using the contingency coefficient method, and the results were explained using the descriptive method. The research scheme in this study is as follows (see figure 1):

***Figure 1**: Research Scheme*
Source: Author, 2021



5. DISCUSSIONS

Questionnaires were distributed to 500 respondents, and only 432 responded, with the result explained as follows.

***Tabel 1:** Respondent background*

1	**Age**	Respondent
	< 23	41
	24 - 60	369
	> 61	22
	Total	**432**
2	**Gender**	
	Male	235
	Female	197
	Total	**432**
3	**Profession/job**	
	Government employee	61
	Private employees	198
	Enterpreneur	66
	Retired	24
	Unemployment	40
	Students	43
	Total	**432**
4	**Education**	
	Senior high school	62
	Diploma	29
	Bachelor	223
	Masters	100
	Doctoral	18
	Total	**432**
5	**Home ownership status**	
	Own house	327
	Not own	105
	Total	**432**
6	**Number of family members**	
	< 3	73
	3 - 5	284
	> 5	75
	Total	**432**

Source: author, 2021

Resident's adaptation and adjustment of housing for work

Before the pandemic, only a small percentage of respondents worked from home (12.5%). However, this number increased to 20.1% during the Covid-19 pandemic. Although the work from home policy is implemented in all regions to prevent the spread of the virus, respondents are more adaptable in combining this policy with working from the office (53.2%), as shown in figure 2. According to approximately 41%, working from home requires adjusting their living space. Before the pandemic, 66.2% of the respondents worked 5-6 days per week, and a small percentage of 33.8% was indenting. However, during the pandemic, the adaptable working time increased to 56.8%, while the remaining was 43.2%. Based on the type of work, entrepreneurs were not really affected in terms of working time. To support work-from-home activities, 19.6% of respondents made adjustments in adding an internet network (wi-fi), 16.6% adding tables and chairs, 4.8% made other forms of adjustments, while 59% made none, as shown in figure 3.

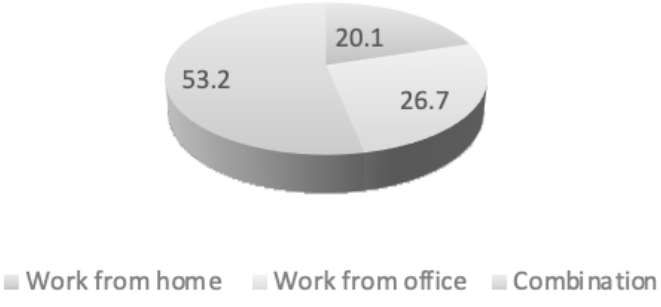


***Figure 2:** Housing adjustment for work during the pandemic*
Source: Authors, 2021

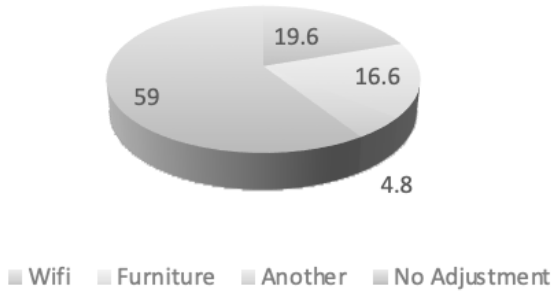


Figure 3: *Adaptation of learning during the pandemic*
Source: Authors, 2021

Residents Adaptation and housing adjustment for learning

Figure 4 shows that learning from home dominated educational activities during the pandemic by 83.9%. Although 60% of the housing conditions are adequate for studying from home, with 38.4% adequate, 44% still carry out further adjustments. Based on ownership status, 49.7% of the houses were owned by individuals. Meanwhile, the adjustment of space in self-owned and rental houses is 34.7% and 9.3%. Although the number of residents in a house did not affect learning activities during the pandemic, 12% of respondents with a population of 3-5 people still utilized a combination of online and offline learning. To support learning activities from home, 19.6% of respondents made adjustments in the form of adding an internet network (Wi-Fi), as shown in figure 5.

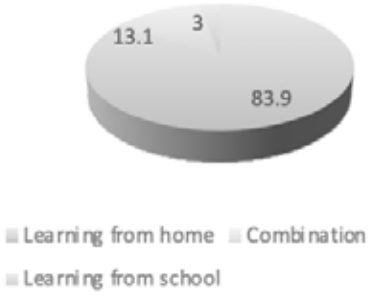


Figure 4: *Adaptation of learning during the pandemic*
Source: Authors, 2021

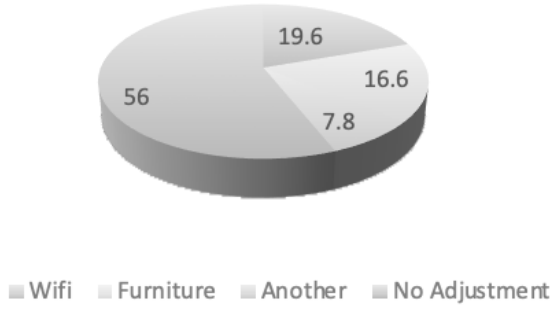


Figure 5: *Adjustment of housing for studying during the pandemic*
Source: Authors, 2021

Residents Adaptation and Housing adjustment for self-quarantine

The condition of the house that is considered adequate for self-quarantine assuming there are family members infected with the virus is 40.5%, while 39.4% were adequate and 20.1% inadequate, as shown in figure 6. Based on ownership, houses with self-owned status undergoing adjustment for self-quarantine were 13.2%, while those on rent were 6.9%. Based on the number of residents, 28.2% of houses with 3-5 residents are sufficient for self-quarantine purposes, while 37.5% are required to be adjusted by preparing separate bedrooms for those that tested positive to the virus and require self-quarantine at home, as shown in figure 7.

The study's results also show that the COVID-19 pandemic affects the understanding of the home. The COVID-19 pandemic has caused the home to be understood as the safest place from the threat of viral infection. This is in line with the statement of Ramboll (2020).

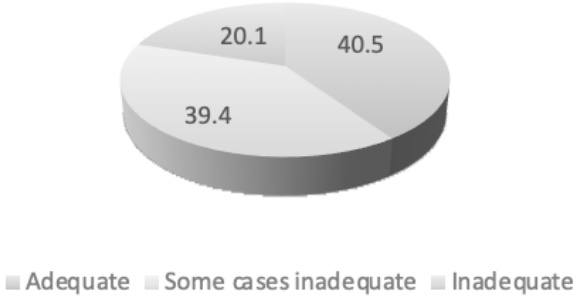


Figure 6: *Adaptation of self-quarantine during a pandemic*
Source: Authors, 2021

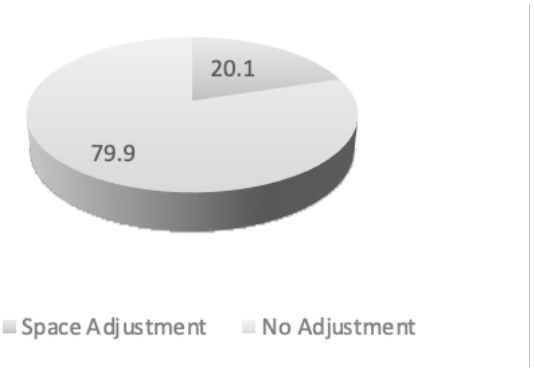


Figure 7: *Housing adjustment for self-quarantine*
Source: Authors, 2021

Resident adaptation and housing adjustment for environmental activities

During the COVID-19 pandemic, 61.6% of respondents restricted environmental activities, while 33.3% adjusted their housing space as a place for environmental activities, such as community gatherings. It is in the form of changing the terrace as a space for environmental activities by implementing a health protocol, such as social distancing.

Adjustment of housing facilities

a. Hand washing place

During the COVID-19 pandemic, 67.1% of the respondents, with 53% in self-owned homes and 14.1% in rented places, provided a handwashing area in front of their home as a form of adjustment to the health protocol. Based on the number of residents, 43.5% of respondents that provide handwashing facilities have 3-5 family members.

b. Room ventilation

During the pandemic, 97.2% of residents optimized the ventilation function by a 2.8% increment. Optimization of ventilation is carried out to maximize fresh air circulation, which smoothly enters the room.

c. Air Conditioning (AC)

During the pandemic, 56.5% and 18% of self-owned and rental houses used air conditioners, thereby culminating in 74.5%. Furthermore, 48.1% of houses with AC had 3-5 people.

d. Garden

The garden is a housing element that supports the comfort of residents during the pandemic. Approximately 63.4 % and 16.4% of self-owned and rented houses had gardens, thereby culminating in 79.9%. Most of these houses with gardens are inhabited by 3-5 people (52.5%).

e. Sports venues

Respondents that provide sports venues at home are 52.5%, and of this number, 41.4% are self-owned, while the rental status is 11.1%. Homes with 3-5 residents provide more sports venues (33.1%) in the form of open space for gymnastics and children's play activities. Adjustments of housing facilities are shown in Figure 8.

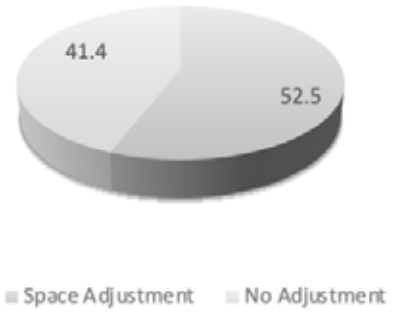


Figure 8: *Adjustment of housing facilities during the pandemic*
Source: Authors, 2021

Additional facilities include internet/wifi network (19.6%), desk/chair for work (16.6%), study table (3.7%), bookshelf (0.9%), guest table/chair (0.9%), audio/sound system (0.9%), bed (0.6%), computer (0.6%), plants (0.4%), jacket rack (0.4%), webcam (0.4%), television (0.4%), cell phone (0.4%), water purifier (0.2%), diffuser (0.2%), room divider (0.2%), drinking water dispenser (0.2%) and reading chair (0.2%).

Home condition adjustment

The respondent's home condition that already supports health is 65.5%, while 34.5% need improvement. Based on ownership status, self-owned and rental homes are supported by 54.4% and 11.1%, respectively. Furthermore, 13.2% of homes with rental status require an increase in order for better support health, while 6.5% have not been able to improve the cleanliness and health of the housing space.

Room type adjustment

The types of rooms that underwent adjustments during the pandemic were bedrooms (7.6%), living rooms (13.4%), work spaces (6.9%), study rooms (3.9%), terraces (3.2%), family rooms (2%), dining room (0.9%), special room for self-quarantine (0.6%), storage room (0.4%), garden (0.9%), kitchen (0.4%) and reading room (0.2%).

Housing environment adjustment

a. Access to enter housing

The adjustment of the environmental access road was associated with the installation of a portal in the housing entrance area to limit visitors during the pandemic. Respondents that lived in self-owned and rental houses with portal roads were 54.9% and 16.9%, respectively, thereby culminating in 71.8%.

b. Security post and item drop off area

During the pandemic, respondents with a housing environment with a guard post and a drop-off area for goods packages at the entrance were 29.4%.

c. Vehicle disinfection

The adjustment of environmental control is the availability of disinfection on vehicles entering and leaving the housing. Respondents living in housing that apply environmental control procedures are 42.8%, while those that do not apply it are 70.2%. Disinfection of vehicles is essential, especially when entering housing hence it does not become a medium for the virus spread.

Mobility adaptation to go outside

Before the COVID-19, respondents with a high frequency of mobility outside the home were 42.1%, which increased to 76.9% during the pandemic. Furthermore, the majority of respondents only carry out activities outside the home when needed, with the largest number being private employees (32.2%).

Adaptation on the use of transportation modes

Approximately 87.3% of the respondents used private vehicles when leaving their homes. Based on the type of work, the majority are private employees (39.4%), and 5.5% use a combination of private vehicles and public transportation.

Adaptation on the use of online services

Online services have become a facility that is sometimes used, especially when self-quarantine is needed (54.4%). Respondents between the ages of 24-60 years used the most (79.4%) to dominate the use of online services, with 71.5% self-owning their homes.

Respondents working from home increased during the pandemic. However, larger numbers are adapting to the combination of working from home (WFH) and office (WFO). In addition, working hours during the pandemic are erratic compared to before the pandemic, except for home entrepreneurs. The combination of working from home and the office requires a housing space adjustment, such as the addition of an internet network (Wi-Fi), tables, and chairs.

Even though the respondents thought the housing conditions were adequate for learning from home, they still tried to adapt, especially those living in the self-owned home. Housing space adjustments are carried out to support learning activities from home, in the form of adding an internet network (Wi-Fi).

Although the respondents considered the home conditions adequate for self-quarantine, they are trying to adapt to the need to accommodate an infected member, especially in self-owned homes with 3-5 residents. The adjustment made is to prepare separate bedrooms for residents that need to self-quarantine themselves (figure 9).

The analysis shows that the quality of the residential environment needs to be a concern in efforts to adapt residents during the COVID-19 pandemic. These results support Oluwatosin's statement that housing and settlement environments need to be considered during the pandemic (Oluwatosin et al., 2020).

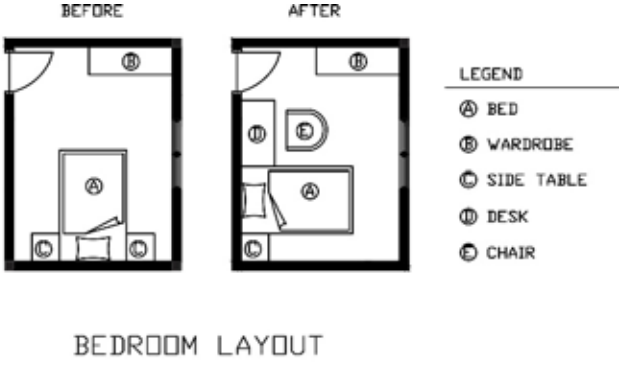


Figure 9: *Adjustment of bedroom layout during the pandemic*
Source: Authors, 2021

Some of the respondents adapted to the restrictions on environmental activities with local residents at home. Room adjustments for environmental activities with local residents at home in the form of changing the terrace and implementing social distancing at home (figure 10).

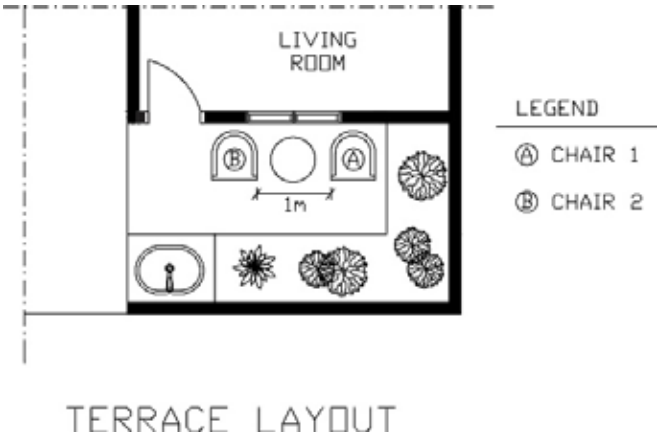


Figure 10: *Adjustment of terrace layout during the pandemic*
Source: Authors, 2021

Most respondents adapted to health protocols at home, especially those that occupy self-owned homes and have family members of 3-5 people. Room adjustments according to health protocols in the form of providing a handwashing area, hand sanitizer, and providing a separate jacket/clothes storage rack (figure 11).

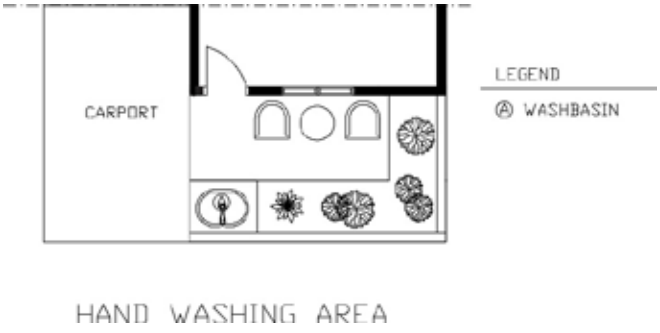


Figure 11: *Adjustment of hand washing are during the pandemic*
Source: Authors, 2021

Most of the respondents adapted to the comfortable conditions of the housing space, especially in self-owned homes with 3-5 people. Room adjustments in the form of optimizing the air ventilation function by maximizing the circulation of fresh air from outside into the building.

Most of the respondents adapted to the presence of a garden at home, especially in self-owned homes with 3-5 people. Adjustment of the garden as an area to exercise and get fresh air.

Most of the respondents adapted towards the entrance access to the housing. Adjustment of housing entry restrictions to reduce contact with outsiders.

Only a few residents adapted to vehicle disinfection when going in and out of the housing environment. Adjustment in the form of providing hand washing place in the housing.

The majority of respondents adapted to activities outside the home as needed. Room adjustments are carried out mainly in the living room and bedroom, with the addition of Wi-Fi facilities and a table/ chair to support work and study activities from home (figure 12).

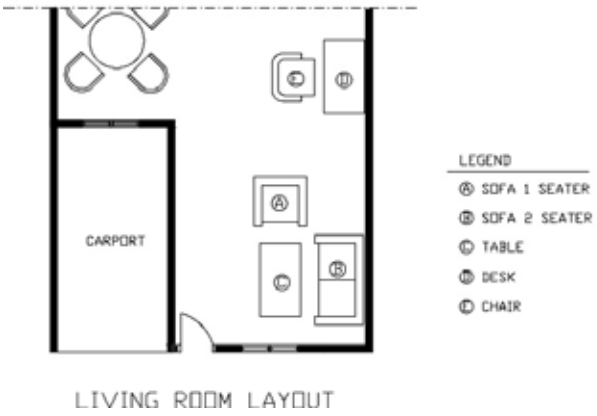


Figure 12: *Adjustment of living room layout during the pandemic*
Source: Authors, 2021

Respondents were more adaptable in the use of transportation modes during the pandemic with the preference for private vehicles. Few used a combination of private vehicles and public transportation. Room adjustment provides a special shelf for storing jackets used to conduct activities outside the home.

Respondents adapted to the use of online services. Room adjustment in the form of providing a place to drop off goods, to reduce direct contact with outsiders (figure13).

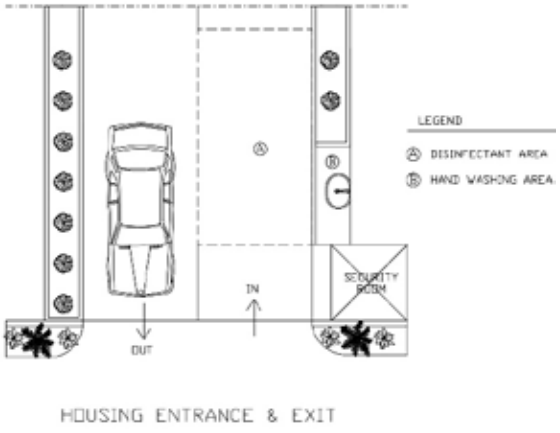


Figure 13: *Adjustment of housing entrance layout during the pandemic*
Source: Authors, 2021

The adaptation of respondents' activities with residents is limited, and only a small number of them are free to visit during the pandemic. The types of rooms that are being adjusted according to priority are the living room, bedroom, workroom, study room, terrace, family room, dining room, a special room for self-quarantine, garden, storage room, kitchen, and reading room.

The study's results also show that the COVID-19 pandemic affects the understanding of the home. The COVID-19 pandemic has caused the home to be understood as the safest place from the threat of viral infection. This is in line with the statement of Ramboll (2020).

6. CONCLUSIONS

Based on the analysis above, residents adapt to health, welfare, and comfort threats during the pandemic. Adjustment of housing space is carried out for awareness and the existence of a health protocol that needs to be met. Therefore, the more complex the needs, the more varied the adjustments, including adjusting the function of the terrace of the house, optimizing air ventilation, adding internet/Wi-Fi networks, providing a hand-washing area, adding table furniture, chairs, and shelves, and using the garden for exercise.

The impact of the COVID19 pandemic has made residents think about home designs that allow one room to function as an independent quarantine room. Cross ventilation is applied to facilitate air change in the house. The need for gardens and space for sports at home is increasing, although limited land is constrained. Residents feel the need to make simple room renovations during the pandemic. Limiting activities outside the home and working and studying at home has made the house a center of activity. The impact is increased attention to family members. This impact needs to be followed by good communication between family members not to trigger disputes. In conditions of stay at home, minor problems at home can start fights. Lower economic groups and people living in densely populated settlements are generally vulnerable to this impact. Because staying at home in a narrow house with many family members and a dense environment can be at risk of triggering.

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