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THE STUDY OF SECURE PERCEPTION OF GATED HOUSING RESIDENTS DURING THE COVID-19 PANDEMIC

(Case Studies: Medan Helvetia Sub-District)

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ABSTRACT

This study examines the secure perception of gated housing residents during the COVID-19 pandemic in the Medan Helvetia District. The COVID-19 pandemic has appeared in people being required to stay in their respective residences to reduce the increasing number of COVID-19 virus cases. This study was conducted to see whether the function of gated housing that prioritizes safety, as mentioned by Blakely and Synder, can be applied or not during the COVID-19 pandemic. The research location is Griya Riatur Indah Residence and Bumi Asri Residence. This research uses quantitative research methods with a descriptive presentation. Primary data sources were obtained through observation and dissemination of questionnaires to respondents using the purposive sampling method. Researchers also used secondary data from the literature study related to the study's object. The results of the study will suggest the characteristics of gated housing, its interactions and social activities, and how the response of the function of gated housing in protecting its residents in the COVID-19 pandemic situation. This research can provide information and input for home managers, designers, and the government about the phenomenon of gated housing during the COVID-19 pandemic. The variables of this study are the classification of the type of security in gated housing, the effectiveness of the boundary wall of gated housing, the anxiety of residents in gated housing, and the concept of preventing the spread of COVID-19 in gated housing.

KEYWORDS: COVID-19, Gated Housing, Pandemic, Perception, Secure.

1. INTRODUCTION

Gated housing is a community that residential area is controlled to protect itself from crime and unwanted things. The gated housing has fences or gates that are useful for controlling entry [1]. In its

development, people's interest in living in gated housing is getting higher and higher [2]. The gated housing runs and grows as the human lifestyle progresses and influences itself. Gated housing not only affects space but also affects the social life of its people, starting from its activities and social life, which tend to be increasingly individualist and less concerned about the interests of the surroundings [3].

Blakely & Snyder describe gated housing are residential areas with a limited entry where public spaces are usually privatized. Surveillance in gated housing is in the form of a perimeter, usually barricades or gates, and controlled entrances intended to inhibit penetration by residents outside the gated housing [4]. In their book, Rowland Atkinson and Sarah Blandy express that a local gated area is a residentiary region limited by blockades or entryways, where access from the general population is confined. There is a legitimate understanding that ties local area occupants and typically controls the administration of local fenced area executives [5].

In further discussion, Blake & Snyder posited that gated housing could be confidential into three main categories occupying the main motivations of residents. The first section is lifestyle communities, with security gates and separation between recreational activities and facilities inside. The second category is social status, where the gates illustrate difference and status and build and secure certain communal levels. Both sections explain classifications driven by the desire to invest and control the future through measurable designs to maximize the internal lives of their residents. Another goal is to create an artificial, homogeneous community where physical and social security is enhanced due to equality and controllable access. The third classification is security, where the apprehension about wrongdoing and pariah factors are the essential inspirations for making protections. This area introduces entryways or walls. This segment incorporates ghetto lodging, where doors safeguard property and property estimations and at times brace encompassing wrongdoings; lodging in suburbia, where entrances make the city a peaceful region and road blockades where roads have obstructed the option to decrease access and catch outcasts [6].

In March 2020, the COVID-19 pandemic spread in the city of Medan. Based on the information obtained, Medan Helvetia District is often ranked highest in COVID-19 cases in the city of Medan by having a high population density compared to Medan Selayang District. From statistics against Gugus Tugas COVID-19 in Medan city, on September 16, 2020, the statistics of positive cases of COVID-19 in Medan Helvetia District was 202 people, the number of recovered patients was 143 people, and 13 people were declared dead [7]. On October 16, 2020, it was revealed that Medan Helvetia District is the area with the most COVID-19 cases in the city of Medan, followed by Medan Johor District and East Medan District [8]. On November 6, 2020, Medan Helvetia District was still ranked the most with COVID-19 cases in Medan city and was followed by Medan Sunggal District, Medan Selayang District, and Medan Johor District [9]. On March 19, 2021, Medan Helvetia District was ranked second with the most COVID-19 cases in the city of Medan, with 1,187 positive proved cases of COVID-19 and 1,788 suspected cases. [10].

Based on the bearings of the COVID-19 pandemic that has the bat the city of Medan, researchers will examine whether the gated housing can function during the pandemic. The COVID-19 pandemic has appeared in people being required to stay in their respective residences to reduce the increasing number of COVID-19 virus cases. The necessity of staying at home and social distancing recommended by the government helps maintain the health of oneself and others to crack communication of the COVID-19 disease. Therefore, it is essential to examine the secure perception of gated housing residents during the COVID-19 pandemic.

2. THEORY AND RESEARCH METHOD

2.1 Theory

The theory conducted in this study includes four sections. These sections are part of a literature study examining the secure perception of gated housing residents during the COVID-19 pandemic.

2.1.1. Security in Gated Housing

A feeling of security is perhaps definite as a cognitive requirement for safety and confidence, a sense of danger as dangerous indirect situations, or a scare of a breach. Salvation is treated as a crucial need for man. Compared with the actual security situation, a sense of security may significantly affect the population's decision-making, actions, and well-being [11].

A sense of security in the community is a significant factor impacting the population because it gives the residents a feeling of control over their community. When residents have an active impression of the community, the substantial form of the space is also helpful in preventing convicts than when people do not notice or have faith in each other. On the adverse, anxiety about the convict and the disbelief of neighbors and other civic dwellers were closely related. At the same time, residents who had no social connection with their surroundings felt more frightening. Built environmental features can develop or reduce the chances of convict acts that can be false to block convict [12].

Newman's research showed the community's perceptions of more meaningful bonds in their territory and fenced-off. Evidence shows that residents consider closed neighborhoods safe places to live [13]. In an environment built in gated housing, community and social cohesion are key factors why gated housing leads to a more profound impression of security. Gated housing is expected to become safer with crime [12].

2.1.2. Secure Perception of Gated Housing Resident

In all personal development, the need for the security of life and property at the level of individuals, homes, and communities is natural and inevitable. Preservation is one of the basic personal needs. The desire for safety is significant in the environment, but it is more important in a residential environment than anywhere else [14]. The perception of the security of criminal threats is critical in achieving

quality of life. According to Maslow's hierarchy, security ranks second only to basic human needs [15]. In their research, Awotona and Zubairu argue that residential status is where people consume better of their lives, so protection is needed, including human intruders [14].

A gated housing is a physical area closed, restricted, fenced, or walled from the outside environment to control, monitor, or prohibit access to a maintained environment. The safety factor of residents in gated housing is an issue that needs to be researched [16]. Several research studies have explored perceptions of security issues in maintained communities, such as in studies in the African region, including Nigeria [17]. City dwellers use several strategies in realizing their unified security to redefine urban space into a mosaic of personally controllable territories. They made a grouping of borders and a realignment in the spatial reconstruction of their environment. In most Nigerian cities, security posts, environmental patrol activities, security guards, and surveillance cameras (CCTV) [16].

Makinde revealed that the tendency to assume a high crime rate is directly proportional to the deterioration of the security situation in a range. Still, this is not consistently the case. It depends on how people interpret and understand the problems of crime and criminality in their environment. Residents can act based on their beliefs and perceptions if they feel that crimes that are outside their environment feel uncontrollable. When crime outside the environment seems unmanageable, they decide to avoid the disturbance [16].

In Makinde's research on security perceptions in gated housing, gated housing have security gates in front of the door with controlled access, guarded by security guards, and sometimes the entire environment is covered by gate boundaries [16]. Occupants living in gated networks contend that as long as the well-being factor in the city isn't significant, gated networks will remain. There are three primary reasons individuals need to live in gated networks: security, prestige, and urban lifestyle [18]. Based on one of the studies [18], somebody was evaluated to remark on how a few inhabitants looked for security. "If gated housing residents work, they tend to leave their homes until they complete labor. Therefore, they are looking for a protected residential area to leave the house easily without feeling worried about theft or anything like that". Gated housing is a housing concept that responds directly to security concerns for its residents.

Some studies, such as [19], [18], and [20], referred to expanded frailty in some urban regions as an underlying component in the development of gated networks. This explains the growing fear of evil in the individual aspect. In Jakarta, fears of crime became particularly significant during the "riots" in 1998 that led to the resignation of President Soeharto. Around then, a few gatherings, particularly Chinese Indonesians, felt concerned and decided to move to gated networks. [21], [20]. However, some gated communities were targeted in the unrest resulting from the deteriorating living conditions of the urban poor. [22].

Some researchers, such as Farral & Gaad, Kajalo & Lindblom, and Tseloni & Zarafonitou [15], make the relationship between perceptions of security with the outside environment related to criminal

threats. The study found that the perception of safety in a maintained community is higher than that of an unattended community. Sound public and environmental relations can reduce residents' anxiety about crime and crime. Using fence boundaries in maintained communities can reduce residents' concerns about future crimes [15].

Suk Kyung researched the perception of security towards the maintained community. The indicators used in his study are divided into six hands. The first indicator is to review the community's specifications, such as the name of the community, the type, number of floors, length of stay, reasons for choosing to live in the community, and the period to leave the community environment. The second indicator discusses the perception of residents regarding safety. Several questions are asked to residents to find out whether they feel safe or not when walking alone to public places (parking lots, laundry, swimming pools, fitness centers, and post offices) and when they live alone in their homes during the day or night. The third indicator discusses residents' responses to crimes around them, such as how many types of crimes arise, how often they appear, and whether or not they feel threatened by the crime. The fourth indicator discusses residents' responses to guardrails and their perceptions of barriers to their function as crime control. The fifth indicator examines the willingness of residents to recommend others to live in their communities related to the level of security they have in those communities. The sixth indicator discusses the community residents' characteristics, such as age, gender, occupation, education, nationality, and the number of family members. From the results of research conducted by Suk Kyung Him, it was found that the crime rate in awake communities feels lower than that of isolated communities. However, when viewed in terms of crime experience, the community awake gets more crime experience than the community that is not maintained because of the property it owns. Residents feel the existence of guardrails in the well-maintained community is lacking in ensuring their safety. However, residents feel safer if security guards guard the barrier and security patrols are carried out over several periods, especially at night [23].

There are three reasons for residents being alive in a well-maintained community: security, privacy, and location. In choosing a place to live, residents pay attention to a safe environment, privacy, and a good spot when choosing a well-maintained community. Security is the most critical factor due to the high crime rate in urban areas. They want them to live safely and comfortably and need to protect their families from possible threats. On the one hand, the developer provides facilities in the form of a community area that is gated and guarded for 24 hours daily by security officers. In addition, each entrance is equipped with CCTV and an intercom system. Those who live in a well-groomed community are equipped with an entry card or car sticker so that they will scan the card before entering the community. Those not residents of the well-groomed community must leave their identification card and be given a visitor card. The security created by a maintained community can develop a sense of privacy and belong to an exclusive, private, and social status environment for its residents [24].

2.1.3. COVID-19 Pandemic

Towards the mark of 2019, the COVID-19 disease, which at first showed up locally in Wuhan - China, broke out and assaulted the joints of the world economy [25]. Right away, this infection was believed to be because of weakness in the human fish discount retail, which sold numerous types of live creatures. The disease rapidly increments from the country to different pieces of China. The development of 2019-nCoV has been respected worldwide consideration, and by January 30, the WHO had reported COVID-19, a general well-being crisis of global concern [26].

Indonesia is the fourth level swarmed and arising country in the world; considering this, persevering through basically over a more expanded period is expected. The SARS-CoV2 hit China most truly from December 2019 - to February 2020. On January 27, 2020, Indonesia gave trip limits from the Hubei region, which was the point of convergence of overall COVID-19, while cleaning 238 Indonesians off of Wuhan. President Joko Widodo recently found two examples of COVID-19 tainting in Indonesia on March 2, 2020. Patients certified with COVID-19 in Indonesia started from an event in Jakarta where the patient came into connection with a distant public (WNA) from Japan who lives in Malaysia. On a different social occasion, the casualty complained of fever, hack, and shortness of breath [27].

The flare-up has been assigned a worldwide well-being crisis. This infection has hampered all everyday human exercises. Quarantine alone may not be sufficient to forestall the spread of this COVID-19 infection, and the worldwide effect of contamination with this infection is progressively disturbing [28]. The Indonesian government has made many strides and strategies to conquer this pandemic issue. Quite possibly, the earliest step taken by the public authority is to mingle the social separating development for the local area. This step intends to crack the string of transmission of the COVID-19 pandemic since this step expects individuals to avoid different people of something like 2 meters, not have direct contact with others and keep away from mass social occasions. Be that as it may, in all actuality, these actions are not fittingly tended to by the general population, so the number of cases keeps expanding. Furthermore, well-being administrations in Indonesia and existing well-being HR in taking care of instances of the COVID-19 pandemic are likewise lacking while patients keep on taking off [29].

The overall strategy that expects individuals to rehearse social and physical separation (keeping a protected break among people and staying away from swarms) isn't a simple thing for humankind on the planet, which is utilized in their social way of behaving [25]. Indonesia itself changed it under the name Large-Scale Social Restrictions (PSBB), which are forced per district, either territories or rules/urban communities; because of the episode's seriousness, whose not entirely set in stone by the focal government through the Ministry of Health. The objective is to forestall the conceivable spread of COVID-19. Individuals can, in any case, do every day exercises with specific limitations. The Large-Scale Social Restrictions (PSBB) strategy is, for the most part, carried out through the extension

of the execution of school occasions, both public and private. Moreover, shutting traveler/diversion and shopping places overall and carrying out a work-at-home strategy for workplaces excluded from the primary area. All those rules, as needed, might have arisen to stop the transmission of this crown episode [25].

2.1.4. Policies on Housing in Preventing the Increase of COVID-19

Housing is key to where the increase of COVID-19 will be experienced. COVID-19 is acceptable to have an impact on our experience at home. Social separating and self-detachment are fundamental stages in general well-being and rely upon individuals with admittance to lodging. They quarantined and isolated themselves and maintained social distancing were key measures in controlling COVID-19 in many countries. Quarantining and self-isolating people in their homes can change housing dynamics, rhythms, and policies in housing. They restrict people from coming to their homes, posing a comprehensive set of problems and challenges and, in some cases putting their lives in danger [30].

Housing is a significant area where the COVID-19 pandemic has been experienced. COVID-19 will impact housing in several ways, although this will affect the individual's experience in the home. Therefore, policies in housing and related ones need to be implemented to suppress the increase of the disease, especially in the lower-middle-income group. Physical distancing and isolation have been vital measures to prevent the spread of the disease, but this can only be met when people have access to a safe residential environment [31]. Self-isolation or individual restrictions in their homes can change the dynamics of their residence, politics, and rhythms that can trigger some problems that are judged dangerous, especially when the home environment is seen as uninhabitable. They are more withdrawn from the environment, considered inadequate, and can trigger the spread of the disease [32].

Based on the research results from [14], examples of existing policies in housing during the COVID-19 pandemic can be seen in Bukit Gading Villa Residence. Bukit Gading Villa Residence chooses protection in its environment such as the mandatory wearing of masks, social distancing, residents staying at home, prohibiting all shipping bans from entering the housing complex until all security parties wear face shields. At the entrance of the housing, disinfecting the entire package that will enter is also carried out, and body sushi checks are checked against everyone who enters the housing. For Bukit Gading Villa Residence residents, this positively impacts them because they can feel the security against the COVID-19 pandemic. Still, on the other hand, they cannot use public facilities in housing because they are restricted in nature. A similar policy is also applied to Gading Kirana Residence. They apply protections such as mandatory masks, social distancing, stay at home, prohibition of all delivery services from entering residential areas, and all security parties use face shields. Fenced housing can be one of the solutions in protecting fenced housing residents against residents of public spaces [33].

2.2 Research Method

In achieving the objectives of this study, researchers refer to several similar studies, namely using a quantitative research approach with descriptiveness to determine the examine fenced housing residents' perception of a sense of security during the COVID-19 pandemic. The reason for choosing a quantitative research approach refers to several previous studies ([15] dan [34]), and this study requires a large number of respondents to measure perceptions so that quantitative research methods are appropriately used in this study. Descriptive selection in presenting research results refers to several previous studies ([33], [35], dan [36]) to provide an accurate picture of the perception of examining fenced housing residents' perception of a sense of security during the COVID-19 pandemic

The first step that researchers will take is to conduct a literature study to determine the security in the fenced housing. Then conclusions will be drawn about the fenced community in a descriptive form. After that, the researcher will select the area of the study location based on data on COVID-19 numbers, where the place with the highest COVID-19 number becomes the area of the study location.

The selection of the research location is determined by the purposive method; that is, the researcher chooses a site based on the consideration of known reasons in the research area. The basis for selecting a research location is based on the highest COVID-19 spread in the city of Medan from March 2020 – to December 2020 at the sub-district level. In determining the residence to be studied, researchers will collect data on the number of residential units at the selected sub-district level. After data collection, researchers sorted three residence estates that belonged to the most significant housing scale category. Based on the data collection results on the spread of COVID-19 in the city of Medan at the sub-district level, the selected sub-district that was used as the location of the study was Medan Helvetia District.

Table 1. Number of COVID-19 Cases in Medan in 2020

Sub-Districts in Medan City	Month									Summary Difference
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Medan Area	27	11	55	61	60	41	44	27	31	42
Medan Amplas	4	2	69	73	70	107	75	40	30	26
Medan Barat	3	-	27	42	61	34	53	24	25	22
Medan Baru	9	1	32	58	80	53	76	51	42	33
Medan Belawan	-	-	2	20	26	25	11	15	10	10
Medan Deli	2	-	22	47	45	48	32	13	16	14
Medan Denai	3	16	57	117	89	81	82	49	72	69
Medan Helvetia	1	12	49	74	140	177	82	136	128	128
Medan Johor	-	13	54	127	110	129	122	73	95	95
Medan Kota	-	18	37	61	69	84	73	44	48	48
Medan Labuhan	-	2	10	24	20	25	27	18	11	11
Medan Maimun	-	1	48	52	24	30	21	31	28	28
Medan Marelan	-	6	15	36	49	47	44	19	13	13

Sub-Districts in Medan City	Month									Summary Difference
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Medan	-	6	25	73	73	62	54	19	43	43
Medan Petisah	-	13	17	49	55	71	45	23	48	48
Medan Polonia	-	3	8	22	32	26	21	16	10	10
Medan Selayang	-	31	54	100	115	150	116	77	121	121
Medan Sunggal	-	17	45	102	110	105	90	61	73	73
Medan Tembung	-	4	37	72	54	67	47	36	40	40
Medan Timur	-	6	47	68	92	121	82	46	51	51
Medan	-	21	30	64	100	113	118	66	85	85

(Source: Medan City Health Office, 2021)

Based on data obtained from the survey results at the Medan Housing, Settlement, and Spatial Planning Office, the following is a list of gated housing in Medan Helvetia Sub-District (Table 2).

Table 2. List of Gated Housing in Medan Helvetia Sub-District

Residence Name	Number of Dwellings	Categories Residence		
		Small-scale (≤ 100)	Medium-scale (101-300)	Large-scale (≥ 300)
Bumi Asri Residence	800			✓
Griya Riatur Indah Residence	400			✓
Taman Hako Indah Residence	215		✓	
Komplek Piazza Residence	125		✓	
City Residence	144		✓	
Madani Al Badar Residence	100	✓		
Atrium Residence	55	✓		
Gaperta Harmony Residence	72	✓		
Gaperta City Residence	25	✓		
Givency One Residence	265		✓	
Grand Legian Residence	35	✓		
The Suites 2 Residence	30	✓		
Taman Impian Indah	80	✓		
Millennium Square Residence	60	✓		

(Source: Medan Housing, Settlement, and Spatial Planning Office, 2021)

In Table 2, it is found that Medan Helvetia District has two residential units on a large scale, namely Bumi Asri Residence with a total of 800 housing units and Griya Riatur Residence with a total of 400 housing units. Based on this, it is concluded that the location of the study was carried out at Bumi Asri Residence and Griya Riatur Indah Residence. Based on the above, the research location is in Medan

Helvetia District. The residences that became the location of the study were Bumi Asri Residence and Griya Riatur Indah Residence. The number of residential units is Bumi Asri Residence in 800 and Griya Riatur Indah Residence in 400. Assuming that one housing unit is one household, the total population is 1,200 households, with details Bumi Asri Residence is 800 households and Griya Riatur Indah Residence is 400 households. In determining the total of samples in this study, the researcher will use the reference slovin formula. The researcher determined the error rate in this study at 10% of the total population. The procedure of slovin is:

$$n = \frac{N}{N d^2 + 1}$$

with:

N= Total population;

n= number of samples;

d= Desired degree of precision (10%)

Based on the formula above, the number of samples needed is:

- Bumi Asri Residence = $\frac{800}{800 (10\%)^2 + 1} = 88,88 = 89$ sample
- = $\frac{400}{400 (10\%)^2 + 1} = 80$ sample Griya Riatur Indah Residence

Given the large number of residents in Bumi Asri Residence and Griya Riatur Residence and the number of populations obtained from the results of forecasts, the sampling method technique used is quota sampling, namely accidental sampling of residents who happen to be found and the number of samples is following what has been determined. Referring to several previous studies that used housing residents, the respondents were housewives because, generally, the head of the family was working.

The stages in the data analysis performance used in this study are as follows validity test, reliability test, and frequencies distribution. The preliminary testing on validity test based on [37], if $r_{count} > r_{table}$ then the indicators is to be valid and usable. In reliability test, refers to [37] that is if the alpha value $> 0,60$. The frequency distribution method is used to see residents' perceptions of a sense of security from the COVID-19 virus in the gated housing in Medan Helvetia District. Based on [38], the assessment uses a Likert scale (1-5), which starts from very disagree (1), disagrees (2), less agree (3), agrees (4), and very agree (5). The assessment table can be described in Table 3.

Table 3. Assessment Scale of Secure Perception of Gated Housing Resident During the COVID-19 Pandemic

Assessment	Range Score
Very low/poor	$1 \leq x \leq 1,8$
Poor security	$1,8 \leq x \leq 2,6$
Sufficient security	$2,6 \leq x \leq 3,4$
Good security	$3,4 \leq x \leq 4,2$

Assessment	Range Score
Excellent security	$4,2 \leq x \leq 5$

(Source: Marisa & Yusof, 2020)

3. OVERVIEW AND RESEARCH RESULTS

3.1 Overview of the Research Area

In the scope of spatial planning in Medan City, the Medan Helvetia District area is dominated by areas with residential land allotments. Private developers mostly manage the existing housing in Medan Helvetia District, which is currently a very dense area. The pattern of structuring the residential environment in Medan Helvetia District is conventional, with grid and linear types. The effect of the arrangement makes for a large number of through roads between blocks in housing. However, the accommodation in this research case study is not equipped with public or commercial buildings, so it must be accessed from outside the housing complex. This section discusses the location, regional boundaries, and patterns of environmental arrangement as well as the form of physical limitations in Griya Riatur Indah Residence and Bumi Asri Residence.

3.1.1. Griya Riatur Indah Residence

Griya Riatur Indah Residence is located on T. Amir Hamzah St., Medan Helvetia District. Griya Riatur Indah Residence consists of 13 blocks with a total number of residential units reaching ± 400. The naming of unions in the housing estate consists of block A to block M. For the boundary of the Griya Riatur Indah Residence on the north and west sides is limited to the back side of the building on T. Amir Hamzah St. The south side is bounded by people's homes and the Babura River. On the east side, it is determined by the Babura River. The area of Griya Riatur Indah Residence is estimated to reach ± 88,589.25 m². The circulation system for access to Griya Riatur Indah Residence consists of two entrance access doors, and the two doors lead to T. Amir Hamzah St. In addition, four gates lead to T. Amir Hamzah St. Still, all gates are closed to limit access to housing. There is very little open space in Griya Riatur Residence, and it is only available at the crossroads of Krisan St., Tulip St., and Anggrek St. In looking at the situation in Griya Riatur Indah Residence, grouping is carried out into 5 points of observation locations can be described in Figure 1.

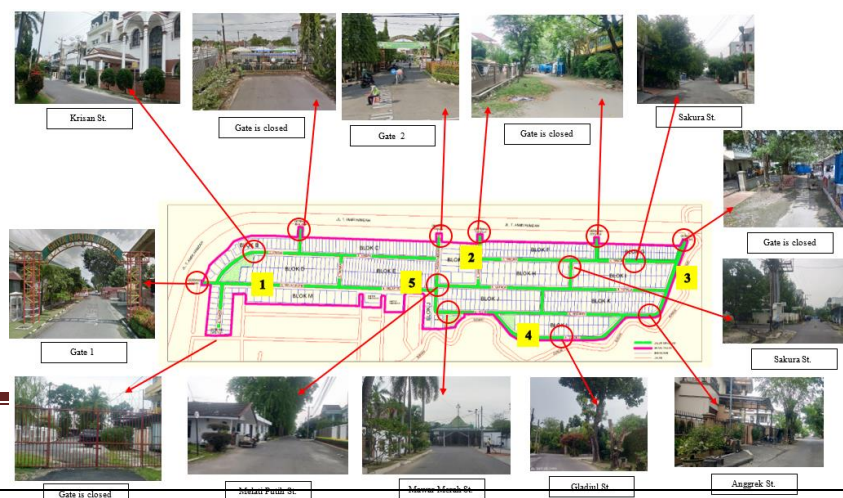


Figure 1: The situation in Griya Riatur Indah Residence

a) Location 1 (conditions on the main lines of residence)

The main residential line has direct access to the management office and the main gate at Griya Riatur Indah Residence (Figure 2). The main access road has a width of ± 6 m and can be passed with two lanes. A house dominates the height of the house with two floors. From the observation results, it can be seen that outsiders cannot freely enter the housing complex. They are guarded by security guards and must leave an identification card at the security guard post. In addition, there is also an alarm security system in the form of a bell. In the residential block on the main line, it can be seen that there is only open space at the intersection of Krisan St. In addition, it can also be seen that the residents of the house are still quite a lot seen coming out of their homes to do activities or relax in their yards.



Figure 2: The situation in location 1 at Griya Riatur Indah Residence

b) Location 2 (conditions on the secondary lines of residence)

The pattern of residential arrangement on the secondary residential line is linear, following along the way. The distance between the dwellings looks very close. The residential secondary lane has a road width of ± 4 m and can only be passed by one street. The height of the house is dominated by one floor. From the observations, it can be seen that the situation in this area looks deserted, and the house residents are rarely seen outside the home. They tend to close themselves to outsiders and tightly lock their house's fence door.



Figure 3: The situation in location 2 at Griya Riatur Indah Residence

c) Location 3 (conditions on the back side of residence)

The pattern of arranging houses on the back side of the housing is linear, following the residential street line. The road has a width of ± 4 m and can be passed in 2 lanes, and a wall marks the boundary of the housing estate. The atmosphere at this location looks very quiet and quiet, and residents tend to be at home rather than outside their home environment (Figure 4).

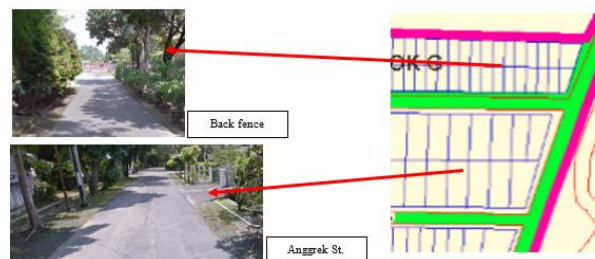


Figure 4: The situation in location 3 at Griya Riatur Indah Residence

d) Location 4 (conditions near the river)

The pattern of house arrangement on the side of housing adjacent to the river is separated by the presence of a housing boundary wall. The house arrangement pattern is linear, which follows the path. The width of the road on this side is ± 4 m, with two lanes. The situation in this location looks very quiet and quiet, and residents tend to be in their homes.

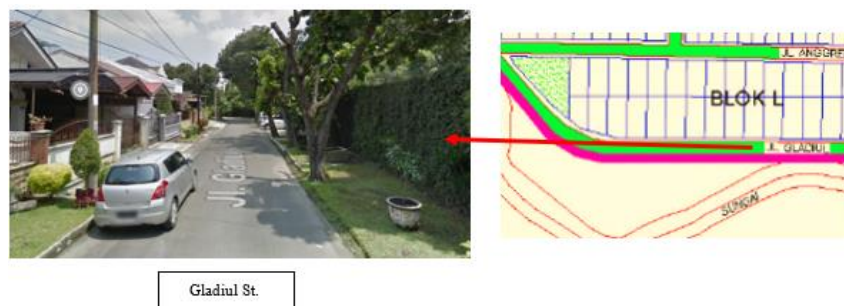


Figure 5: The situation in location 4 at Griya Riatur Indah Residence

e) Location 5 (conditions near the facilities of the place of worship)

Based on the observations, the situation created at this location is crowded and often passed by residential residents. The width of the road on this side ± 4 m with two lanes. The pattern of structuring the house on this site is linear, following the shape of the road.

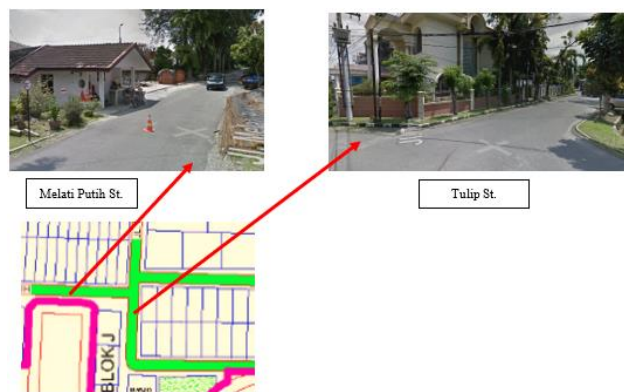


Figure 6: The situation in location 5 at Griya Riatur Indah Residence

3.1.2. Bumi Asri Residence

Bumi Asri Residence is located on Asrama St, Cinta Damai, Medan Helvetia District. Bumi Asri Residence consists of 7 housing blocks with a total number of residential units ± 800 units. The way of naming house blocks consists of block A to block G. The boundary of the Bumi Asri Residence on the north side is bounded by the Paragon Warehousing. From the east side, it is determined by Dormitory Street. It is bordered by residents' homes from the south and west sides—the total area of Bumi Asri Residence ± 319.97 m². Different from Griya Riatur Indah Residence, Bumi Asri Residence only has one access to the exit into the housing complex. The area in Bumi Asri Residence can be divided into public and residential. General regions tend to be located on the front side of the entrance to the exit of the housing estate. In addition, there is a zone of green open space in the form of tennis courts. In looking at the situation in Bumi Asri Residence, grouping into five observation locations was carried out. The situation map and observation location points in Bumi Asri Indah Residence can be seen in Figure 7.



Figure 7: The situation in Bumi Asri Residence

f) Location 1 (condition on the main lines of residences)

The situation on the primary residential line looks very lively. This location is more widely used as a shophouse zone, so there is a lot of trade in goods and services. The width of the road on this main road is quite broad, ± 10 m, with a road barrier of ± 2 m divided into two clear lanes. The pattern of structuring residential units on the main line is linear, following the shape of the road. Security guards guard access in and out of the housing complex at the entrance gate. However, based on the results of observations from researchers, there is no obligation for access cards to enter the housing complex. The security guard guarding the entrance intensely checked every vehicle that entered. This can be due to the presence of goods and services and culinary trade facilities in the housing complex (Figure 8).

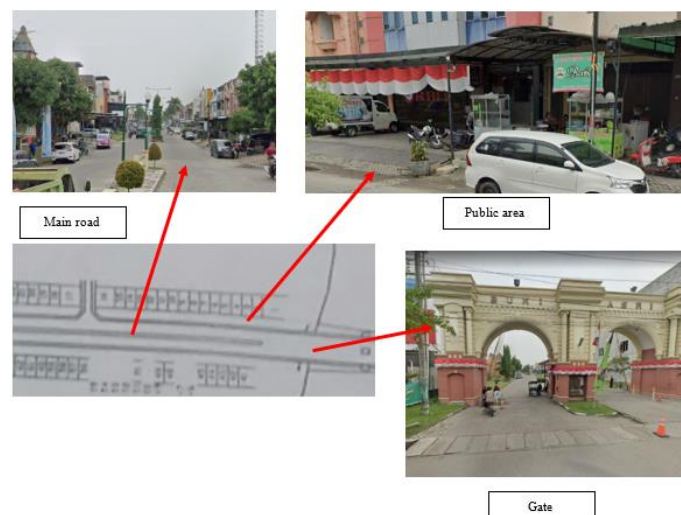


Figure 8: The situation in location 1 at Bumi Asri Residence

g) Location 2 (conditions on the main route to the management office)

Just like location 1, the situation at location 2 on the main line leading to the manager's office of Bumi Asri Residence looks very lively. This is because the road is an arterial road to residential units. In front of the main line is a large roundabout to go to the residential unit block—the width of the road at this location ± 10 m. The direction of the vehicle lane follows the roundabout in front of the Bumi Asri management office (Figure 9).



Figure 9: The situation in location 2 at Bumi Asri Residence

h) Location 3 (conditions in the secondary line – block B-D)

Unlike the situation at location 1 and location 2, the situation at location 3 looks a little deserted, and it is still seen that some residents are doing activities outside the house. The width of the road at this location ± 4 m with two lanes, but there is no lane separator like those at location 1 and location 2. The pattern of structuring residential units at location 3 is linear, following the shape of the road (Figure 10).



Figure 10: The situation in location 3 at Bumi Asri Residence

i) Location 4 (conditions in the secondary line – block F-G)

The conditions at location 4 are the same as in location 3, which looks a little deserted, and some residents can still be seen doing activities outside the house. The most striking thing in location 4 is the more significant amount of green open space, especially on the side that is the barrier to housing. The width of the road at the location of the ± 4 m with two lanes and the pattern of arrangement of residential units is linear, that is, following the shape of the road.



Figure 11: The situation in location 4 at Bumi Asri Residence

j) Location 5 (conditions in the back side of residences)

The conditions on the back side of the housing look deserted, and slightly visible residents do activities outside the house. On this side, it is directly adjacent to the wall that is the boundary of the housing estate—the width of the road at this location ± 4 m with two lanes. The pattern of arranging residential units in this location is linear, which follows the shape of the road, but there are very few residential units.



Figure 12: The situation in location 5 at Bumi Asri Residence

3.2. Research Results

The characteristics of respondents in this study included gender, housing, education, employment, length of stay, and reason for the choice to live in fenced housing.

Table 4. Frequency Distribution of Gender, Housing, Education, Employment, Length of Stay, and Reasons for Choosing to Live in Fenced Housing

No	Characteristics of Respondent	Frequency (person)	Percentage (%)
1	Gender		
	Man	72	42,6
	Woman	97	57,4
2	Residences Name		
	Griya Riatur Indah	80	47,3
	Bumi Asri	89	52,7
3	Education		
	SMP_SMA	9	5,3
	D1-D4	15	8,9
	S1	136	80,5
	S2	8	4,7
	S3	1	,6
4	Employment		

No	Characteristics of Respondent	Frequency (person)	Percentage (%)
	Student	27	16,0
	State Officer / BUMN	35	20,7
	Private Employees	13	7,7
	Self-employed	49	29,0
	Pensioner	9	5,3
	Housewives	36	21,3
5	Length of Stay		
	1-2 year	34	20,1
	3-5 year	9	5,3
	>5 year	126	74,6
6	Reasons to Stay		
	Quieter	36	21,3
	More secure	125	74,0
	More privacy-protected	8	4,7
	More luxurious	0	0
	Total	169	100.0

From the study results, it is known that the characteristics of respondents in terms of gender, the majority are women (57.4%). The features of respondents in terms of housing names are the majority of Bumi Asri Residence (52.7%). The characteristics of respondents in terms of education, the majority of respondents graduated from S1 (80.5%). In terms of employment, the majority of respondents worked as self-employed (29.0%). In terms of length of stay, most respondents stayed for more than five years (74.6%). The characteristics of respondents in terms of reasons for living in housing were the majority because security was better maintained (74.0%).

Table 5. Frequency Distribution of Perceptions of Security Types

No	Statement	Answer										Sum	Average
		Very Agree		Agree		Less Agree		Disagree		Very Disagree			
		N	%	N	%	N	%	N	%	N	%		
1	My security is maintained by the existence of a fence (guard wall) in housing during the COVID-19 pandemic	53	31.4	111	65.7	2	1.2	3	1.8	-	-	721	4.3
2	My security is maintained because it is guarded by security guards	58	34.3	100	59.2	7	4.1	3	1.8	1	0.6	718	4.2
3	My security is maintained by checking the entrance (ID/access card)	40	23.7	109	64.5	12	7.1	2	1.2	6	3.6	682	4.0

No	Statement	Answer										Sum	Average
		Very Agree		Agree		Less Agree		Disagree		Very Disagree			
		N	%	N	%	N	%	N	%	N	%		
4	My security is maintained with the existence of a central monitoring system (CCTV)	53	31.4	104	61.5	6	3.6	3	1.8	3	1.8	708	4.2
5	My security is maintained by the presence of an alarm security system in housing	31	18.3	101	59.8	27	16.0	8	4.7	2	1.2	658	3.9
Summary											3487	4.1	

Table 5 shows the occupants' perception of the type of security. We obtained a total score of 3,487 with an average of 4.1, so it can be concluded that residents' perception of this type of safety belongs to the good category. This means that, generally, respondents acknowledge that security during the COVID-19 pandemic in Bumi Asri Residence and Griya Riatur Indah Residence is good. This is very important to prevent the spread of COVID-19 in Bumi Asri Residence and Griya Riatur Indah Residence.

Table 6. Frequency Distribution of Perceptions of the Effectiveness of Guardrail Walls

No	Statement	Answer										Sum	Average
		Very Agree		Agree		Less Agree		Disagree		Very Disagree			
		N	%	N	%	N	%	N	%	N	%		
1	Walls in housing can create a physical difference between residents in housing and the outside environment	43	25.4	93	55.0	23	13.6	5	3.0	5	3.0	671	4.0
2	The wall (guardrail) restricted my interaction with residents outside the housing estate	40	23.7	85	50.3	29	17.2	10	5.9	5	3.0	652	3.9
3	Walls guarantee my safety during the COVID-19 pandemic from communities outside of the housing	29	17.2	89	52.7	38	22.5	13	7.7	-	-	641	3.8

No	Statement	Answer										Sum	Average
		Very Agree		Agree		Less Agree		Disagree		Very Disagree			
		N	%	N	%	N	%	N	%	N	%		
4	Outside communities cannot freely enter housing during the COVID-19 pandemic	36	21.3	90	53.3	34	20.1	7	4.1	2	1.2	658	3.9
Summary											2622	3.9	

Based on the recapitulation of respondents' answers to the four items of statement about the perception of the point of the wall above, a total value of 2,622 was obtained with an average value of 3.9 (Table 6). It can be definite that the occupants' perception of the effectiveness of the guardrail walls belongs to the good category. This means that respondents admit that the effectiveness of the guardrail wall during the COVID-19 pandemic in Bumi Asri Residence and Griya Riatur Indah Residence is good.

Table 7. Frequency Distribution of Perceptions of Resident Anxiety

No	Statement	Answer										Sum	Average
		Very Anxious		Anxious		Less Anxious		Disanxious		Very Diacious			
		N	%	N	%	N	%	N	%	N	%		
1	I have no concerns about interacting with residents outside of housing	3	1.8	89	52.7	24	14.2	32	18.9	21	12.4	528	3.1

No	Statement	Answer										Sum	Average
		Very Anxious		Anxious		Less Anxious		Disanxious		Very Diacious			
		N	%	N	%	N	%	N	%	N	%		
	during the COVID-19 pandemic												
2	I have confidence in people outside the housing, so it is easy for me to interact with people outside the housing	7	4.1	89	52.7	20	11.8	33	19.5	20	11.8	537	3.2
3	I believe in law enforcement (police) in preventing the spread of COVID-19 so that there is no need for extra security in housing	7	4.1	87	51.5	19	11.2	31	18.3	25	14.8	527	3.1
Summary											1592	3.1	

Based on Table 7, a total value of 1,592 was obtained with an average value of 3.1. It can be definite that the resident's perception of the resident anxiety belongs to the category of less anxious. Respondents admit that residents' concern during the COVID-19 pandemic in Bumi Asri Residence and Griya Riatur Indah Residence is quite nervous.

Table 8. Frequency Distribution of Perceptions about Preventing the Spread of the COVID-19 Virus

No	Statement	Answer										Sum	Average
		Very Agree		Agree		Less Agree		Disagree		Very Disagree			
		N	%	N	%	N	%	N	%	N	%		
1	<i>Social distancing</i> is applied to this housing, both between residential residents and in public facilities in housing	51	30.2	108	63.9	9	5.3	1	0.6	-	-	716	4.2
2	There is room for self-isolation so that residents can self-quarantine	2	1.2	55	32.5	68	40.2	40	23.7	4	2.4	518	3.1
3	There are restrictions on the use of public facilities and	18	10.7	89	52.7	48	28.4	10	5.9	4	2.4	614	3.6

No	Statement	Answer										Sum	Average
		Very Agree		Agree		Less Agree		Disagree		Very Disagree			
		N	%	N	%	N	%	N	%	N	%		
	infrastructure in housing												
4	There are <i>face to face</i> restrictions on residents outside the housing	25	14.8	115	68.0	22	13.0	6	3.6	1	0.6	664	3.9
5	Temperature checks are carried out for those who enter the housing	40	23.7	109	64.5	5	3.0	13	7.7	2	1.2	679	4.0
6	The presence of disinfectant spraying on housing	64	37.9	87	51.5	13	7.7	5	3.0	-	-	717	4.2
7	People cannot freely enter the housing and are required to leave an identity card at the security guard post	45	26.6	111	65.7	8	4.7	5	3.0	-	-	703	4.2

No	Statement	Answer										Sum	Average
		Very Agree		Agree		Less Agree		Disagree		Very Disagree			
		N	%	N	%	N	%	N	%	N	%		
8	Delivery services (such as couriers and online motorcycle taxis) cannot freely enter the housing	33	19.5	62	36.7	47	27.8	18	10.7	9	5.3	599	3.5
9	Each occupant is required to wear a mask and/or face shield	50	29.6	98	58.0	17	10.1	4	2.4	-	-	701	4.1
Summary											5911	3.9	

Based on the recapitulation of respondents' answers to the nine items of statement about perceptions about preventing the spread of the COVID-19 virus above, a total value of 5,911 was obtained with an average of 3.9 (Table 8). It can be concluded that residents' perceptions of preventing the increase of the COVID-19 virus fall into the good category. Respondents admit that the precautions for spreading the virus during the COVID-19 pandemic in Bumi Asri Residence and Griya Riatur Indah Residence are reasonable.

Based on the results of the research obtained from each research indicator, here are the conclusions of the results of the perception of fenced housing residents towards a sense of security from the COVID-19 virus during the COVID-19 pandemic in Table 9.

Table 9. The Results of the Secure Perception of Gated Housing Residents During the COVID-19 Pandemic

No	Indicator	Sum	Average	Category
1	Perception of the type of security	3.487	4,1	Good security
2	Perception of the effectiveness of guardrail walls	2.622	3,9	Good security
3	Perception of residents' anxiety	1.592	3,1	Sufficient security
4	Perceptions of preventing the spread of the COVID-19 virus	5.911	3,9	Good security
Summary		13.612	3,7	Good security

Based on Table 9, it was found that the total value obtained was 13,612, with an average value of 3.7. It can be concluded that the result of the secure perception of gated housing residents during the COVID-19 pandemic in the Medan Helvetia Sub-District is good.

Based on the impact of observations, it was obtained that there were several different policies between the gated housing and outside the fenced residential in Medan Helvetia District. The essential thing is the response when someone is confirmed positive for COVID-19. In the gated housing, in this case, Griya Riatur Indah Residence and Bumi Asri Residence, when the residents are confirmed positive for COVID-19, the manager quickly quarantine the residents in the resident's homes themselves. The management also prepares some necessities during the resident's self-isolation period, such as providing food and drinks every day and being delivered to the door of the resident's house. In addition, the management routinely sprays disinfectants throughout the housing complex to decide on the spread of the COVID-19 disease in the housing complex. The administration also routinely checks the body temperature of those who will enter the housing complex and spray disinfectant on packages that come

to the housing complex. Policies like this are not found outside the fenced housing, so it becomes a striking differentiator between the fenced housing and outside the fenced housing.

The results of observations also found that there were policy differences between Griya Riatur Indah Residence and Bumi Asri Residence. The policy differences include how strictly the implementation of policies in housing is in response to the COVID-19 pandemic. The most striking thing in policy supervision in housing is the Griya Riatur Indah Residence. Griya Riatur Indah Residence applies a tracing system to all residential residents, especially residents who have just arrived from outside the city or traveled long distances. At the security post, there is a sheet to record every occupant who travels out of town. When residential residents return from out-of-town travel, the management requires them to quarantine and self-isolate in their own homes for two weeks to ensure they don't carry the COVID-19 disease. When the resident undergoes a period of quarantine and self-isolation, the management prepares for the needs of the resident, such as providing food and drink during the quarantine and self-isolation period and carrying out strict guarding at the resident's home so that the occupant is not allowed to leave the house before the quarantine and self-isolation period is over. The policy applied to Griya Riatur Indah Residence is very different from that of Bumi Asri Residence. In Bumi Asri Residence, the approach to carrying out a tracing system for each housing occupant is not implemented, so this is a very striking difference between Griya Riatur Indah Residence and Bumi Asri Residence. In addition, during the COVID-19 pandemic, residents who do not live in Bumi Asri Residence are still allowed to enter the housing complex even though at the entrance, inspections are still carried out in advance.

The research results are in line with several principles of gated housing. In a case study in Bumi Asri Housing and Griya Riatur Housing, the function of the gated housing in providing boundaries to outdoor spaces is proven, as stated by Blakely and Synder [39]. The part of the gated housing during the COVID-19 disease can protect fenced housing residents during the COVID-19 infection so that residents get a sense of security. Guardrails in gated housing can also provide clear environmental boundaries to people outside of residential so that the interaction between residents living inside the housing and residents living outside the housing is reduced.

Some of the policies that emerged in Bumi Asri Residence and Griya Riatur Indah Residence during the COVID-19 pandemic also prove Blakely and Synder's statement that gated housing residents tend to make their regulations to regulate and form their environment [39]. The policy was seen when the security guards at the entrance checked everyone about to enter the housing complex, such as identity and temperature checks. The existence of a body temperature check policy is a newly emerging regulation when the COVID-19 pandemic hits, and this is an effort to protect residential residents from the dangers of COVID-19.

Other policies that appear in observations on the ground are restrictions on the number of access to and out of the housing. This is in line with research managed by Bint-e-Waheed and Nadeem in Lahore, Pakistan, on case studies of Allama Iqbal Town and Valencia Town [34]. Bint-e Waheed and Nadeem

compared the effect exerted by many entrances from the permeability analysis on road access. The study results found that safety can be guaranteed if road access into the environment is minimized and has fewer access doors. The same thing is also seen in Bumi Asri Residence and Griya Riatur Indah Residence, where access to the housing complex is restricted. As in Griya Riatur Indah Residence, this housing has quite a lot of gates to enter the housing. However, the management of Griya Riatur Indah Residence implemented a policy to reduce access to the exit, and the security made it easier to control everyone who entered the housing.

4. CONCLUSION

Based on the impact of research and data analysis regarding examining fenced housing residents' perception of a sense of security during the COVID-19 pandemic with a case study in Medan Helvetia District, it was obtained that residents consider security in the fenced housing to be good during the COVID-19 pandemic. In terms of the type of security in the fenced housing, the average value obtained is 4.1, so protection in the fenced housing is included in the good category. In terms of the effectiveness of the fenced housing guardrail wall, the average value obtained was 3.9, so the fenced housing's safety was considered good during the COVID-19 pandemic. In terms of resident anxiety, the average score received was 3.1, so residents were considered quite anxious during the COVID-19 pandemic. In terms of preventing the spread of the COVID-19 virus, the average value obtained is 3.9, so security in the fenced housing is included in the good category during the COVID-19 pandemic.

One of the main principles in gated housing, in this case, is about safety, which is considered to protect gated housing residents from the COVID-19 virus, so this is in line with the principles stated by Blakely and Synder regarding gated housing [4]. The availability of additional security in the form of CCTV, alarms, and security guards is also needed by respondents in assessing environmental protection in housing. The effect guardrails provide to fenced housing residents in reducing their concerns about outdoor spaces is also in line with Makinde's research. Citing statements from Atkinson and Flint, the research results from Makinde revealed that residents tend to impose restrictions on their living environment. Respondents believe that providing guardrails to their living environment can provide boundaries and reduce the space for outside environment movement so that they can live with a sense of security. Residents also tend to choose to live in housing to provide a boundary between themselves and their family members to the outdoor space from the threat of the dangers of COVID-19. Respondents felt that the threat of COVID-19 was far more dangerous outside of housing than inside a housing complex. This is due to the presence of several items that are restrictions in reducing interaction with residents outside the housing complex.

The policies implemented in the gated housing look very different and strict compared to procedures that are outside the gated housing so that gated housing residents can gain a sense of security during the COVID-19 pandemic. The other policies can be descriptive from the response when residents are confirmed positive for COVID-19. Gated housing residents are under strict guard and supervision during the quarantine and self-isolation.

The observations also found a different policy treatment between Griya Riatur Indah Residence and Bumi Asri Residence regarding the tracing system. Griya Riatur Indah Residence applies a tracing approach to every resident, especially residents who have just arrived from outside the city or on a long trip, so this is considered an effort by the management of Griya Riatur Indah Residence to protect its residents from the COVID-19 virus.

The purpose of the study in assessing the secure perception of gated housing residents during the COVID-19 pandemic in Medan Helvetia District has been achieved. Based on the results of the study, some suggestions can be given; it is hoped that other researchers will continue this research in the future by looking at the pattern of residents' perceptions of safety during the COVID-19 disease. The development of this research is expected to be a reference for the government, designers, and developers in creating safe housing for their residents, especially in the future, similar to the COVID-19 pandemic.

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