

Public Space as a Stress-Relieving Healing Environment: Insights from the Center Point of Indonesia

Nurul Fuadiyah, Abdul Mufti Radja & Afifah Harisah

Department of Architecture, Hasanuddin University, Makassar. Indonesia

Corresponding author's email: muffiradja@unhas.ac.id

Received	Reviewed	Revised	Published
27.11.2023	12.12.2023	19.12.2023	31.12.2023

<https://doi.org/10.61275/ISVSej-2023-10-12-16>

Abstract

The concept of a healing environment in public space as a stress reliever is a solution to the complex problems of metropolitan cities. It is argued that combining Nature, senses, and psychology will make everyone in a public space feel comfortable. It is a solution to relieve the stress arising from problems.

This research evaluates the public space in Center Point Indonesia as a stress reliever employing the concept of a healing environment. The convenience level of public space facilities, the visitors' perceptions, and the healing aspects of public space leading to stress are examined. It used mixed methods of research involving field surveys. Interviews, observations, and a documentation study.

The findings indicate that there are still various evaluations of the management of CPI, especially public facilities and amenities such as seats and trash bins. The study found that different facilities and environments have varying visitor roles and comfort levels. The data produced percentages indicating that the CPI area, business park, sunset quay/coffeeshop, and seating area received a "good" response from visitors. In contrast, the lego-lego playground area, parking area, and trash cans received a "less" response. The average percentage of "good" responses from visitors was 56.42%, meeting the "good" response criteria.

Keywords: Evaluation, Public Space Evaluation, Center Point Indonesia, Stress Relief, Healing Environment.

Introduction

Nowadays, cities are proliferating, especially in developing urban economic activities. The governments from districts, cities, provinces, and central government aggressively carry out the city development and urban activities. It is to balance the urban activities and the community's increasingly hectic routine (Pratiwi, 2016).

The rapid development of urban life has led to increased intensity of activities that require public space to accommodate them. Space, as one of the architectural components, has an important role in the relationship between the environment and people because of its function as a place for human activities. Everyone can access public space: young and older adults, men and women, rich and poor. They can perform various activities, including sports,

picnics, meetings, be in transit, educational activities, as well as and selling things. These activities are closely related to the behavior of visitors to public spaces (Deni Hantono, 2020).

As said, a public space is a place for the community to do activities. Indeed, it is one of the government urban facilities for the public needs. Every country has regulations governing them. In Indonesia, the regulation of the Minister of Agrarian Affairs and Spatial Planning/National Land Agency (Ind: Permen ATR/BPN) number 14 of 2022 on the provision and utilization of open green space applies there. It mentions that each municipality must provide open green space of at least 30% of the area, with 20% public and 10% private. The community utilizes the public open green spaces and city parks to carry out activities (Hapsari, et.al., 2022).

According to Febriarto (2019), urban communities tend to have high mobility activities (They create new problems for the communities, such as high level of stress. In order to comply, a city park becomes a place to relax and refresh: They are used for picnics, doing exercise, and socializing.

According to Nilsson et al. (Vasiljeva, 2013), providing public green spaces such as city parks is an urban solution to such stress. There is evidence that public green spaces positively impact urban quality of life, in terms of physical and mental health and general well-being. In addition, the activities in city parks can also create creative communities that benefit city development and growth. Therefore, city parks must consider the availability of facilities and services to effectively meet the community needs.

Thus, availability of a healing environment can reduce stressful feelings. It has a positive impact on harmonizing body, mind, and soul. A healing environment is one of the environmental designs that combine the three elements: Nature, senses, and psychology. Nature can be perceived through human senses to see, hear, and feel. The feelings indirectly affect people, making them psychologically feel peace, comfort, and safety (Lissimia, 2021). Thus, the presence of public green spaces can create comfort and safety. The harmony and alignment of green space with the urban development pace will support sustainability (Shiite, 1994).

Public space can accommodate public interests, such as communicating with others, informal meetings of specific communities, playing, walking, exercising, taking a load off, just watching people pass by, or noticing their activities. They can hang out while watching the city's hustle and bustle and enjoying street foods. Thus, the role of public space as one of the city elements can provide its character. It also has the function of social interactions for the community, economic activities, and cultural appreciation to improve the quality of urban space. Implementing a healing environment in a green space can further support urban development.

This paper examines the role of public spaces as healing environments. Quantitative research involves collecting and analyzing numerical data to describe, explain, and predict phenomena. Its objectives are:

1. Measuring the comfort level of public space facilities according to visitors' perception in the CPI area.
2. To evaluate visitors' perceptions of a healing environment in public space as a stress reliever in CPI.

Theoretical Framework

Carr et al. (1992), point out that public spaces accommodate busy urban life. As a public space, the city park is one of the destinations where people can take a break from their routines. The visitors can also connect. Carr et al. describes the visitors' needs in public spaces, including comfort, relaxation, discovery, and passive and active engagement. They are necessary to make public spaces achieve their objectives. Comfort is the essential thing that visitors need in public spaces. It can be perceived through the duration of the visit, means of protection from weather, and the availability of supporting facilities such as benches and

restrooms. Relaxation is another visitor's need to obtain psychological comfort. They go to public spaces to relax from urban life and daily activities. Passive and active engagements are why visitors come to public spaces. They actively interact socially, play sports, and exercise.

According to Carr et al (1992) on the other hand, they passively do some things, such as just sitting on a bench to relax or watch people pass by. The last, discovery, is the activity that includes curiosity to gain new and exciting experiences through exploration in public spaces. Discovery is essential to relieve stress from being locked up for a period of routine and space. Exploration is critical to the intellectual and social development of children. User of public spaces can get new experiences on the first or next visit.

Arsyad (2019) argues that perception is organizing information in the brain and putting it into a context that will create perspectives. The way of looking at things is called individual or collective interpretation, socially and culturally.

There are several factors which have been described by Thoha (2003) influencing personal perception; they are:

- a. Internal factors include emotions, attitudes, personality, preconceptions, desire or expectation, attention (concentration), learning process, physical condition, mental disorders, values, needs, interests, and motivation.
- b. External factors include background, information, knowledge and needs, intensity, scale, disagreement, repetitive motions, new things, and familiarity with a particular object.

Carmona (2021), says that a public space is considered good when it functions properly and meets the visitors' needs. He argues that suitable spaces must have four criteria:

- a. Comfort and image: Public spaces must have special arrangements so that the visitors feel free to occupy them. The perception of safety and hygiene also affects the comfort, first impressions, and visit duration.
- b. Use and activities: Use of public spaces for activities shows their functions. Many activities will provide opportunities for visitors to participate actively or passively.
- c. Access and linkages: The city park is intended for the public. Thus, it needs to be easy to access. Public spaces will only be visited if they have easy access. Public transportation and pedestrian walkways must pass through heavy traffic.
- d. Sociability: As a public space, the city park functions as a socializing place amid daily mobility.

A healing environment is a physical environment which can accelerate the recovery period of a patient's health. In addition, it can accelerate the process of patient's adaptation from chronic and acute conditions by involving psychological effects. According to Murphy (2008) it is also one of the establish concepts of environments for care which should integrate the physical and psychological aspects of the patients. It aims to accelerate the recovery process Widihardjo (2013).

According to Purisari (2016), healing is rebuilding harmony within a person. It is the mutual relationship between a person, a family, a community, an environment, and the spirit of life. Healing is not a treatment process, but it restores the balance between all these components. The main objective of a healing garden is relieving symptoms, reducing stress, and improving well-being and good feelings (Marcus and Barnes 1999).

The definition of healing developed by the Samuelli Institute provides a good foundation. Healing is the improvement process of holistic recovery, and transformative in mind, body, and spirit which produces positive changes, find meaning and move for self-realization, regardless of the disease presence Firth et al. (2015).

According to Podbels (2017), healing architecture aims to reduce stress, connect the patients to Nature, increase control, encourage social support, provide positive distractions, and inspire peace, hope, and spiritual connections. Therefore, understanding essential elements in environmental healing should be explored to ensure a basic understanding and

proper implementation. It is essential to ensure the positive effects of the concept (Hamzah et al., (2020). The management, and the visitors, both positive and negative impacts. According to Fouts and Gaby (2008) and Bloemberg et al. (2009), the impacts of a healing environment include reducing stress and anxiety on people, reducing pain, and increasing excitement and productivity.

Review of Literature

The concept of a healing environment has evolved from the research of Robert Ulrich, a Director of the Center for Health Systems & Design at Texas A&M University, USA. The central theme of the research is the effect of user-centered design or design, which emphasizes the users' needs. In this case, the users are the patients at healthcare facilities. It proved that the environment of health care facilities affected the quality of the patient's healing process. Jones (in Kurniawati, 2007) also points out that environmental factors have a central role in the healing process at 40%, medical at only 10%, genetic at 20%, and other at 30%. There is no doubt that environmental factors have a significant role in the recovery process, so they should have a more significant portion in the design of public spaces. Altimier (2004) highlighted that incorporating a healing environment into the healthcare setting optimizes clinical care and outcomes, staff satisfaction, morale, retention, and repeat business.

Moreover, Uwajeh et al. (2019) have documented the role of Nature in healthcare environments, with a particular focus on gardens and the health implications of natural environments for patients with Alzheimer's disease and dementia. Meanwhile, Aripin (2006) emphasized the significant role of daylight in creating a healing environment with profound physiological, mental, and psychological effects on individuals. These sources underscore the importance of various environmental elements in contributing to a healing environment in healthcare facilities, ultimately impacting the well-being and recovery of patients and the satisfaction and retention of healthcare staff. The physical environment of healthcare facilities is increasingly recognized as a crucial factor in patient well-being and recovery. Various studies and sources highlight the significance of different elements in creating a healing environment, including light, sound, facility design, and green areas

Research Methods

Using mixed method research. The mixed method is a type of research emerging from the vision or pragmatic paradigm. It is a combination of quantitative and qualitative data collection in sequence. The pragmatic perspective stems from the understanding that focusing on the research problem is essential (Creswell, 2009). Creswell (2009) argues that researchers can use a variety of approaches to investigate research problems. They do not focus on only one method, in this regard, the quantitative or qualitative.

The researcher is expected to understand the problems better by combining these two methods, different forms of data collection and data analysis. The research design used the explanatory sequential mixed method. The first step is for the researchers to conduct quantitative research, then analyze the results, conclude, and explain in more detail with qualitative research. In this study, quantitative research was used to measure the comfort level of the visitors to the facilities in CPI. Afterward, qualitative research was carried out to find out the factors affecting the perception of comfort in detail through interviews and observations.

1. The quantitative data is obtained from the questionnaires. The questionnaires were used to obtain scores from the respondents. The questionnaires contain questions to be scored by the respondents. Microsoft Excel program was used to process data. Data processing is done in stages as follows.

Positive Questions:

- Score 4 (Strongly agree/Like/Good)
- Score 3 (Agree/Like/Good)
- Score 2 (Disagree/Like/Good)
- Score 1 (Strongly Disagree/Like/Good)

2. Negative Questions:

- Score 4 (Strongly Disagree/Bad/Very Less)
- Score 3 (Disagree/Bad/Less)
- Score 2 (Agree/Good/Like)
- Score 1 (Strongly agree/Good/Like)

3. Adding up the average score with

$$\text{formula } m = \frac{\text{the amount of data}}{\text{the number of data}} \times \frac{100\%}{100}$$

4. Score formula of x and y: $T \times P_n$

- T: number of questions
- P_n : The choice of Likert score number

5. Formulating the highest number (x) and the lowest number X = the number of statement items per variable x the lowest number

Y = the number of statement items per variable x the highest number

Formulating index %: $\text{Total Score} / Y \times 100$

The following are the benchmarks for number clarification based on the sum of numbers:

- Value 0% – 25% = Very bad
- Value 26% – 50% = Bad
- Value 51% – 75% = Good
- Value 76% – 100% = Very good
- Value 80% – 100% = Excellent

Analysis of the qualitative data followed three stages. They are:

1. Data Reduction: It means collecting in detail, focusing on the crucial things, and summarizing the main finding. Thus, the data that has been reduced can provide more detailed imagery and make it easier to summarize the data. It also can be easier to find out when needed.
2. Data Presentation: It means presenting data in graphs, tables, or other graphical means. It makes it easier to grasp the patterns and derive conclusions.
3. Conclusions: A conclusion is derived using the data collected through qualitative research.

The Case Study

This research employs case study as a method. It was conducted in Makassar City, South Sulawesi Province, precisely in Center Point Indonesia (CPI) area at coordinates 5°08'35" SL and 119°24'07" El as indicated in the figure below. There are several reasons for the selection of this location.

1. CPI is the icon of Makassar City, which many people currently visit.
2. The location is easily accessible so that the research can be undertaken regularly.



Fig. 1: Centre Point Indonesia Area
Source: Google Earth, 2023

Fig. 2: Centre Point Indonesia Area
Source: Google Earth, 2023

Data collection took place from October to November 2023, and four distinct zones were observed by the researcher. The data documentation included various methods to gather information about the conditions being studied:

- 1) Documentations: These were taken to capture the state of the facilities and observed environments.
- 2) Open-ended interviews: Conducted with visitors of CPI to gather their opinions and perceptions.
- 3) Questionnaires: 200 questionnaires were distributed to visitors of CPI to assess their reactions to the perception of CPI regarding stress relief.
- 4) Empirical study: Comparison of the theories and realities, this research component aimed to provide insights into the current state of the facilities and observed environments.

By using a combination of these data collection methods, the researcher was able to gain a comprehensive understanding of the four zones and their impact on the visitors' experiences and perceptions of stress relief at CPI.

Findings

The table below shows the results of questionnaires distributed to the visitors in the CPI. The highest percentage of the activities is 'enjoying the sunset' at 38%. Then, 29.5% doing sports, 25% are engaged in playing, and 7.5% are working.

Table 1: The Purposes of Visiting and Activities in CPI
Source: Author, 2023

No	Visiting Purposes and Activities	Total	Percentage
1	Doing Sport	59	29.5%
2	Enjoy The Sunset	76	38%
3	Playing	50	25%
4	Working	15	7.5%
Total		200	100%

The research ascertained the perceptions related to the most visited environment and facilities at the CPI. These perceptions have been formed from the experiences or feelings generated in the places. In this case, the visitors provided explanations of their experiences or feelings in the CPI area.

The questionnaires concluded that 38% of the people said relaxing while drinking coffee and enjoying the sunset can make them feel better. Being in a healing environment will make people avoid the hustle and bustle of the city and pollution.

Observations of the facilities and the environmental conditions in the CPI area are as follows:

1. The Level of Comfort in Public Space Facilities in the Center Point Indonesia

Based on the data processing of researchers from questionnaires, distributed to 50 respondents, the average respondent gave a "good" response to the environment and facilities along the CPI road with an average percentage of 65.1%. CPI area with an average percentage of 65.1%. This can be seen in the Likert scale data figure below.

- Total average score

$$m = \frac{\text{Sums of data}}{\text{Number of data}} \times 100\%$$

$$m = \frac{651}{50} \times 100\% = 13.02\%$$
- Minimum score

$$x = T \times P_n$$

$$x = 5 \times 1 = 5$$
- Maximum score

$$x = T \times P_n$$

$$y = 4 \times 5 = 20$$
- Index %

$$(\text{Total score} / \text{maximum score}) \times 100$$

$$(13.02\% / 20) \times 100 = 65.1\%$$

Fig. 3: Likert Scale Data
Source: Author, 2023

a. The Environmental Condition of Lego-Lego Playground



Fig. 4: Lego-Lego Playground
Source: Author, 2023

According to the observations, of this area, the absence of green plants such as trees, grass, and bushes make the atmosphere arid. There are also no shelters and seating/benches, to enable the visitors to use the space as a walking area or as a seating place. In addition, the lighting facilities also need to be improved. Some lights need to be fixed at night. The trash bin facilities are also unavailable around the playground. Thus, some visitors leave food waste scattered. It makes the place unsanitary. The observation about the absence of greenery is also confirmed by the respondents to the questionnaire.

“The greenery needs to be more reproduced because the visitors will feel the heat in the afternoon and evening when they are around lego-lego”

Respondent 1, Questionnaire, 2023

b. The Environmental Condition along the CPI Road Area



Fig. 5: The condition along CPI road area

Source: Author, 2023

According to the observations, there are few green plants along the CPI road area, and the area is therefore unshaded and arid. Only a few shady trees and grass are on the side of the road. As a result, people walk often on the grass, which tend to wither away from frequent trampling. This observation is also confirmed by the respondents of the interview below.

“There are not many trees in this area. I think the green space can reduce my stress after working all day long. I think planting more trees around CPI will be good idea. It can cause the interactions between human being and the nature”. “The greening of certain areas is required”.

Respondent 2, Questionnaire, 2023



Fig. 6: The people sitting on the grass

Source: Author, 2023

The concept of 'healing environment' is expected to be applied in the CPI area.

2. The Factors influencing the visitors' perception of the environment in CPI Area as Stress Reliever.



Fig. 7: The Environment of Business Park
Source: Author, 2023



Fig. 8: Trash bin in the CPI area
Source: Author, 2023

Some of the interviewer's responses are based on open-ended interviews with some visitors. They stated that there needs to be more greenery and shade. As such, visitors feel uncomfortable to exercise and do other activities. However, they also realized that the CPI area is not a place for sports, and children cannot play there. The respondents assume that there is no prominent place in Makassar like CPI. This place makes them feel comfortable being there.

Moreover, there is a sunset quay, so they can enjoy the sunset without walking a long way. Therefore, they expect that the facilities and environment be given more attention in terms of waste management and the availability of trash bins. This observation is also confirmed by the respondent No 3.

“The janitor only comes in the morning, even though many visitors come in the afternoon or evening. The janitor should come twice or three times a day”. “As you can see, it is quite dirty here so the environment becomes uncomfortable. There is even an unpleasant odor which usually appears when the wind blows. We even can't enjoy the moment”.

Respondent 3: interview at CPI on October 2023

3. The Concept of Healing Environment towards Public Space as Stress Reliever of CPI Visitors.

Some factors influence visitors' perspective on facilities and the environment in the CPI area as stress relievers. They consist of internal and external factors. The internal factor is the personal experience, and the external factor is the CPI conditions, which can be viewed from the researcher's perspective. Based on the results of processing all questionnaire data using the Likert scale formula, the average visitor responds "good" to the facilities and environment in the CPI area with a percentage of 56.42%. The percentage is 56.42%. These results are obtained by averaging the total score of all locations in the CPI area, which is equal to 99 48.5% in the lego-lego playground area, 65.1% in the parking area, 49.4% in the business park area by 61.9%, in the business park area by 61.9%, and in the business park area by 61.9%. The business park area was 61.9%, the sunset quay area was 63.7%, the seating area was 57.25%, and the trash bins to 49.1%. All data is scored using the average formula and Likert scale. This can be seen in the table and diagram following.

Table 2: Likert Scale Score Percentage
Source: Author,2023

No	Facility/Location	Score	Percentage
1	Lego-Lego Playground	48.5	Bad
2	Along the Road Area CPI	65.1	Good
3	Parking Area	49.4	Bad
4	Business Park	61.9	Good
5	Sunset Quay/Coffeeshop	49.4	Bad
6	Seating Area	57.25	Good
7	Trash Can	49.1	Bad

Table 3: Percentage Interval
Source: Author,2023

No	Visiting Purposes and Activities	Interval Percentage
1	0% - 25%	Very Bad
2	26% - 50%	Bad
3	51% - 75%	Good
4	76% - 100%	Very Good

Conclusions

The public space in Center Point Indonesia is one of the most favorite places in Makassar, which many people visit because of its strategic location on the coast and downtown. This paper identifies that the seven facilities and environments used as research references have different roles and comfort from the point of view of each visitor. From the data, it produces a percentage that in the area along the CPI area road, business park, sunset quay/coffeeshop and seating get a "good" response from visitors. While in the Lego-lego playground area, parking area and trash can get a "less" response from visitors. From these, it is found that the average percentage of responses from visitors is "good," which can be seen from the percentage value of 56.42%, where the score from the interval value percentage table is included in the "good" criteria.

Despite carefully planned and executed, this space has some weaknesses as well as strengths. It is known that the management of CPI should provide seating and plant trees around the area so visitors can take advantage. They are the things that the management

should pay attention to. When the visitors are overwhelmed, the grass will be damaged. The visitors will be seated on the grass because there is no seating.

Therefore, the community responds well to Center Point Indonesia's existence. However, the management of CPI still needs to evaluate several things to improve CPI facilities and infrastructure. Massive reforestation and strict regulations regarding orderliness in parking vehicles still need to be carried out. Thus, the CPI area is expected to be a solution in implementing a healing environment.

At the same time, the paper integrates theoretical frameworks on perception and healing environments to analyze the factors influencing visitors' perception of the CPI area as a stress reliever. This theoretical foundation enhances the depth of the analysis and provides valuable insights into the psychological aspects of the environment.

On the other hand, while the paper presents observations and respondent feedback, it lacks empirical data to support its claims. The absence of quantitative data, such as the number of visitors, their demographics, and specific environmental measurements, weakens the robustness of the findings. Further research needs to conduct a summary. At the same time, the paper offers a detailed assessment of the environmental conditions in the CPI area and integrates multiple perspectives; it would benefit from the inclusion of empirical data, a more thorough discussion of the healing environment concepts, and a more robust engagement with the existing academic literature on the topic.

It is therefore suggested to observe the factors that visitors express, so that their opinions can be certain considerations in improving the physical quality of CPI. Since visitors as users or the local community, they are very entitled to have their rights fulfilled with the presence of a comfortable public open spaces. Visitors do not feel comfortable because of the lack of greenery. Children's playgrounds and parking areas have no facilities at all and are not in accordance with their functions. function. Moreover, the parking area is not strategically located.

References

- Aripin, S. (2006, November). Healing architecture: a study on the physical aspects of healing environment in hospital design. In Proceedings of the 40th Annual Conference of the Architectural Science Association (ANZAScA), Adelaide, South Australia (pp. 22-25).
- Altimier, L. B. (2004). Healing environments: for patients and providers. *Newborn and Infant Nursing Reviews*, 4(2), 89-92. Available at: <https://doi.org/10.1053/j.nainr.2004.03.001>
- Bloemberg, F. C., Juritsjeva, A., Leenders, S., Scheltus, L., Schwarzin, L., Su, A., & Wijnen, L. (2009). *Healing Environments in Radiotherapy*. Wageningen: Produced by students of Wageningen University as part of their MSc-programme.
- Carmona, Matthew, Claudio de Magalhaes and Leo Hammond. (2008). *Public Space: The Management Dimension*. Routledge. London Shaftoe.
- Carr, S., Lynch, H., Sandell, Francis, M., Rivlin, L. G., & Stone, A. M. (1993). *Public Space, Environment and Behavior*. *Encephale*, 53(1), 91-92.
- Chaplin, J.P. 1997. *Kamus Lengkap Psikologi*. Jakarta; PT Raja Frafido Persada.
- Creswell, J. W. (2009). *Qualitative, quantitative, and mixed methods approaches*. Deni Hantono (2019) *Kajian Perilaku Pada Ruang Terbuka Publik*. *Jurnal NALARS*, 18 (1), page.58. Available at: <https://www.researchgate.net/publication/341098747>
- Eastman CI, Young MA, Fogg LF, Liu L, Meaden PM. Bright Light Treatment of Winter Depression: A Placebo-Controlled Trial. *Arch Gen Psychiatry*. 1998;55(10):883-889. doi:10.1001/archpsyc.55.10.883
- Firth K, Smith K, Sakallaris BR, Bellanti DM, Crawford C, Avant KC. Healing, a Concept Analysis. *Global Advances in Health and Medicine*. 2015;4(6):44-50. Available at: doi:10.7453/gahmj.2015.056
- Gross, R., Sasson, Y., & Zohar, J. (1998). Healing environment in psychiatric hospital design. *General hospital psychiatry*, 20(2), 108-114. Available at: [https://doi.org/10.1016/S0163-8343\(98\)00007-3](https://doi.org/10.1016/S0163-8343(98)00007-3)

- Hapsari, S., Rini, E. F., & Rahayu, M. J. Efektivitas Taman Kota Madiun dalam Memenuhi Kebutuhan Ruang Publik dari Perspektif Pengunjung. *Desa-Kota: Jurnal Perencanaan Wilayah, Kota, dan Permukiman*, 5(1), 15-34. Available at: <https://doi.org/10.20961/desa-kota.v5i1.64554.15-34>
- Kurniawati, F. 2007. "Peran Healing Environment terhadap Proses Kesembuhan". Mahasiswa Jurusan Teknik Arsitektur. Yogyakarta
- Lidayana, V., Alhamdani, M. R., & Pebriano, V. (2013). Konsep dan Aplikasi Healing Environment dalam Fasilitas Rumah Sakit. *Jurnal TEKNIK-SIPIL*, 13(2). Available at: <http://dx.doi.org/10.26418/jtst.v13i2.4619>
- Mangunsong, I., dan Jamartin Sihite, 1994. Prediksi Kebutuhan Ruanh Terbuka Hijau di Jakarta Barat Tahun 2005. *Majalah Trisakti* No. 14/Th. IV/4/1994 hal 17-22, Jakarta.
- Podbelski, L. (2017). Healing Architecture: Hospital Design and Patient Outcomes. Retrieved October 13, 2023, from <https://www.sageglass.com/en/article/healingarchitecture-hospital-design-and-patientoutcomes>
- Rice, L. (2019). The nature and extent of healthy architecture : The current state of progress. *Archnet-IJAR: International Journal of Architectural Research*, 13(2), 244-259.
- Purisari, R. (2016). Healing Architecture: Desain Warna Pada Klinik Kanker Surabaya. *NALARs*, 15(1), 55-62. Available at: <https://doi.org/10.24853/nalars.15.1.55-62>
- Putri, D. H., Widihardjo, W., & Wibisono, A. (2013). Relasi Penerapan Elemen Interior Healing Environment Pada Ruang Rawat Inap dalam Mereduksi Stress Psikis Pasien (Studi Kasus: RSUD. Kanjuruhan, Kabupaten Malang). *ITB Journal of Visual Art and Design*.
- Uwajeh, P. C., Iyendo, T. O., & Polay, M. (2019) Therapeutic gardens as a design approach for optimising the healing environment of patients with Alzheimer's disease and other dementias: A narrative review. *Explore*, 15(5), 352-362. Available at: <https://doi.org/10.1016/j.explore.2019.05.002>
- Yulia Pratiwi (2016) Transformasi Fungsi Ruang Terbuka Publik di Perkotaan Studi Kasus: Taman Pedestrian Kecamatan Tenggarong, Kabupaten Kutai kartanegara, Kalimantan Timur. *Jurnal Arsitektur NALARs*, 15 (1), hlm.63. Available at: <https://doi.org/10.24853/nalars.15.1.63-72>