

People's Perceptions and Behaviours at Park Integrated Sidewalks: The Case of Sultan Hasanuddin Street, Makassar, Indonesia

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Abstract

Sidewalks are spaces by the sides of streets that provide for the needs for walking. Several activities need to be supported by sidewalk environments to facilitate the activities. Most importantly, pedestrians of sidewalks must feel comfortable and safe. In several locations in Makassar in Indonesia, there are many sidewalks that are directly integrated with open spaces such as parks. They are expected to provide for the diverse uses of the sidewalks, but there are unsatisfactory environments.

This research identifies the behaviors of pedestrians in a park-integrated sidewalk in Makassar, Indonesia. Data was gathered through literature, interviews, questionnaires, observations and documentations. It uses observations based on predetermined research indicators and analyze them using behavior-mapping theory. An evaluation was also carried out by the community respondents which was used as a measurement indicator using the Likert scale. Findings were validated through triangulation of data sources involving observation, documentation and interviews.

The findings of the research show that there are several types of behaviours on the integrated sidewalks of the park. These tend to vary and are influenced by the conditions of the sidewalk environment itself based on the use as selling activities and vehicle parking.

Keywords: Park integrated sidewalks, pedestrians behavior

Introduction

Sidewalks spaces adjacent to vehicular paths used for various activities. They primarily involve walking although often, other activities such as selling street food and parking two-wheeled vehicles etc. also take place there. These other activities certainly affect the pedestrians because they reduce the spaces available for walking. In fact, sidewalks integrated with parks tend to be more crowded than the sidewalks in general because there are various activities taking place in them. Each environment has its own condition, that leads people to

behave in one way or another and make people respond to the situations and sidewalks are no exceptions.

However, according to Rapoport (1990), an environment is not a random aggregate of things and people. The relationships are ordered. That is to say, they have a pattern and a structure. Rapoport also distinguishes the built environment, which is central to this framework, defined vaguely as a product of deliberate human activity and culture (Rapoport 1994). The fact that the environment is “built” already indicates certain things. For example, it points to the existence of its “creator/s” or “co-creator/s”. Generally, these are the subjects willing and able to influence the interactions by shaping some elements of the environment. Moreover, the phrase “built environment” suggests a number of fundamental dilemmas related to the influence of the environment or, to use a more modest description, the possibility that environmental factors can co-shape interactions.

People and the environment are connected to each other. This means that what the environment provides depends on people’s reactions or responses. Therefore, a park-integrated sidewalk environment provides a space where many activities could be done. Thus, they are different from ordinary sidewalks.

This paper examines people’s perceptions and behaviours at park-integrated sidewalks in Makassar, Indonesia. Its aim is to describe the behaviour of the pedestrians. Its objectives are:

1. To describe the behaviour of pedestrians at a park integrated sidewalk.
2. To ascertain whether the sidewalk can accommodate pedestrian’s needs based on their perceptions.
3. To ascertain whether the sidewalk can provide a sense of safety and comfort based on pedestrian’s perceptions.

Theoretical Framework Sidewalks

The main function of a sidewalk is to provide facilities to pedestrians’s to walk in comfort and safety. However, they also aim to facilitate road traffic so that there is no interference between pedestrians and vehicles on the roads. This is why the objectives of traffic management is to separate the pedestrians from the flow of vehicles, without causing disruption to accessibility.

According to the Technical Guidelines for Accessibility Requirements on Public Roads (1999), in order to provide optimal service for the pedestrians, sidewalks must be hardened and provided with barriers which can be in the form of curbs or barriers and given an elevation that is higher than the pavement surface. The surface must be flat and have a transverse slope of 2-4% to prevent waterlogging. According to the Minister of Public Works of Indonesia, Regulation Number: 03/PRT/M/2014, a pedestrian-free space must have the following criteria and specifications,

1. Provide freedom for pedestrians.
2. Has high accessibility.
3. Guarantee security and safety.
4. Have a free view of surrounding activities.
5. Accommodate the social needs of pedestrians.
6. Have a height of at least 2.5 meters.
7. Have a depth of at least 1 meter.
8. Have a side width of at least 0.3 meters.

Definition and Concept of Behavior

Behavior is an individual's response/reaction to stimuli originating from outside or from within (Notoatmojo, 2010). According to Wawan (2011), behavior is either a bodily or a mental action that can be observed and has a specific frequency, duration and purpose, whether consciously carried out or not. It is indeed a collection of various aspects that interact with each other. In a general sense, a behavior that emerges is always caused by the inner processes of people, with the interactions both with the environment and the fellow actors present in an environment themselves.

Setting Based Behavior: Roger Barker's Theory

In 1978, Roger Barker proposed that human behaviour can be understood primarily in relation to the environmental setting in which he acts. His theory of 'Behavior Settings' came into being from the observation that the individual behavior of children could be better explained by their current environment at the time of the observation than by their individual characteristics. Behaviour however is not a single action but a series of actions and more specifically the way in which those acts are carried out.

Roger Barker's behavioral regulation theory (1978) explains seven points. They are as follows.

1. A behavioral setting consists of one or more standing behavior patterns.
2. It consists of standing patterns of behavior-and-milieu.
3. The milieu is circumjacent to the behavior pattern
4. The milieu is synomorphic with the behavior pattern.
5. The behavior-milieu parts are called synomorphs.
6. The synomorphs have a specified degree of interdependence.
7. The synomorphs have a greater degree of interdependence among themselves

However, according to Haryadi and Setiawan (2010), the concept of behavior could be better explained in terms of several vital concepts in the study of environment / architecture. They are as follows.

1. Behavior Setting
2. Environmental Perception
3. Perceived Environment
4. Environmental Cognition, Image and Schemata
5. Environmental Learning
6. Environmental Quality
7. Territory
8. Personal Space and Crowding
9. Environmental Pressures and Stress

Behavior Setting: Analysis with Behavioral Mapping

Roger Barker (1978) proposed the concept of Behaviour setting in relation to Behaviour mapping: an articulated way of observing behaviour and recording. This technique is depicted in the form of a sketch or a diagram indicating the observations of an area where people do various activities (Sommer, 1986). In fact, behavior mapping can be done directly at the time of observation or carried out later based on the notes made. Developed by Ittelson since the 1970s, it has become very popular. Numerous techniques are used (Haryadi & Setiawan, 2010). Sommer in Haryadi (2010), says that a behavioral map can be produced in the form of a sketch or diagram

about various activities of the people. The goal is to depict these actions in maps, identifying the types and frequencies of behavior, as well as showing the relationship between them. Sometimes, behavior can be a design specific one. Mapping behavior can be done in two ways: mapping based on place known as place-centered Mapping, and mapping based on perpetrators person-centered Mapping.

Behavioral factors are seen as influential in spatial patterns. Sommer (1986) says that this technique is used to find out how people or a group of people exploit, use or accommodate their activities in a certain situation of time and place. A researcher can use a basic map and must be familiar with the situation of the place or area being observed. The researcher takes notes of behavior and indicates them with symbols on a map.

Mapping based on perpetrators or person-centered mapping explains people's movements in a certain time period. This technique is related not only to one place or location but to several places or locations. Place-centered maps record many people while person-centered map, observed specifically someone. The procedure is to follow the movements and activities carried out by the person or a group of people being observed and then produce sketches and notes on a base map.

This technique is a useful technique to understand how people use spaces. They can divulge patterns of use over time and as related to spaces and places. They can also divulge who does what when and where, so that a good understanding about person-place interactions can be ascertained.

Literature Review

In the past, many scholars have explored research on behaviour in the context of sidewalks. However, even if centered on similar issues, each study possesses unique scopes, aspects and methodologies. For example, Darmawati (2011) examines the diversity of sidewalk user behavior which influences pedestrian comfort and safety. She employs a descriptive qualitative method and produces place-centered maps and person-centered mapping for analysis. The results show the diversity of user behavior which causes discomfort and safety for pedestrians. She point out that the diversity of pedestrian behavior to obtain comfort and safety involves the following ways.

- a. Adapting space to the existing order.
- b. Actions to avoid disturbances after feeling disturbed by the situation on the sidewalk.
- c. Measures to avoid distractions during travel.

Thomas (2020) has studied and mapped pedestrian user behavior patterns in the physical setting of the Soedirman – Hatta corridor in Kupang City. He has used a descriptive qualitative approach collecting data in place-centered maps. He shows that pedestrians will travel through roadside areas or not on pedestrian paths when;

- a. Pedestrian paths have no difference in surface level with highways.
- b. They are in a damaged condition and difficult to pass, for example extreme ramp slopes.
- c. The width of the pedestrian path is quite small.
- d. Walking on the pedestrian path takes longer than using the roadside area.
- e. There are obstacles on the pedestrian path, such as vehicle parking, poles or other street furniture, puddles of water, activities standing apart from other people and street vendors' activities.

Similarly, Purnama (2019) has examined pedestrian perceptions of the physical condition of the Sidewalks of Jalan Jendral Sudirman Pekanbaru, in Malaysia. Rationalistic quantitative research method were used in this study. Measuring perceptions using the Semantic

Differential Method with the SPSS 17 application to obtain the validity and reliability of the data obtained from respondents. From the results of calculations using SPSS with a total of 100 respondents, it was found that the number of respondents who gave negative answers was greater than respondents who gave positive answers. Simultaneously, Sulfia et al. (2021) have investigated the community behavior patterns related to the use of Tiger Park in Makassar, Indonesia. They have used person-centered maps, place-centered maps and physical traces employing a descriptive research method with behavior mapping. They conclude that behavior or attributes of society in utilizing public open spaces are comfort, sociability, visibility, accessibility, activity, territory, privacy and legibility. According to them, the dominant environmental attribute of community behavior in Taman Macan is legibility, which can be seen in the behavior patterns that have emerged in Nukila Park. It has been observed that visitors usually look at the situation before determining a place that can be used for any activity.

Interestingly, Prima and Prayogi (2020) have studied pedestrian behavior in transit oriented (TOD) development areas. They suggest that physical environment plays a very important role in influencing pedestrian behavior in the TOD areas. Some of the physical environments that play a role include shade, barriers and facilities that can influence pedestrian speed. They argue that these factors can give rise to different behaviors so that people can revive existing pedestrian paths. The role of pedestrian paths in completing pedestrians' daily lives often creates comfort and discomfort for pedestrians. When a pedestrian path feels too hot to pass, pedestrians will be reluctant to cross that path or move faster, unless there are facilities around the path that many people use for entertainment or to complete their lives.

Sitanggang, et al. (2017) have examined the study of pedestrian comfort on the use of sidewalks in Pontianak City. They show that pedestrians' perceptions of the overall level of comfort, in using the sidewalk on Jalan Sultan Abdurrahman Pontianak, involve poor criteria. In other words, pedestrians do not get optimal comfort when using or carrying out walking activities on the sidewalks of Jalan Sultan Abdurrahman Pontianak. Judging from the overall factor results, they point out that from a total of 100 pedestrians respondents with a total score of 3637 produced a score of 48.49%. Thus, it has been classified as poor in terms of the use of sidewalks on Jalan Sultan Abdurrahman Pontianak, in Indonesia.

Kurniawan (2019) has investigated the patterns of use of the Sidewalks by street vendors on Jalan Mangga Besar, Jakarta. They employ an inductive approach, with field observations, interviews with police distribution analysis to collect data. According to them, street vendors on Jalan Mangga Besar have a sedentary and semi-sedentary service pattern. As discussed by McGee and Yeung (in Widjajanti, 2009), this pattern is the cleverness of street vendors in seeing the potential of a location. It is noted that resident street vendors usually already have trading locations which are usually rented from a parking attendant. The parking attendant charges a rental fee of ten to fifteen thousand rupiah a day and the street vendors will stay in one location. However, semi-sedentary street vendors are not bound by the rent of their trading locations. In fact, they trade for a certain period of time and then move to another location. This shows that a comfortable space also influences the length of time, the street vendors stay.

Saraswati and Alvianti (2022) have examined the stakeholder perceptions of pedestrian path elements in the Gajah Park Area, Bandar Lampung City. They have employed stakeholder perceptions, questionnaires and interviews and have found out about the stakeholder perspectives regarding priority elements in spatial planning. They show that both stakeholders and pedestrian path users place the Pleasure factor or pleasant conditions as a priority in developing pedestrian paths in the Gajah Park Area. This makes pleasant conditions, including the availability of pedestrian paths, the availability and placement of complementary facilities such as street furniture and the addition of ramps, the main priority in spatial planning efforts in the Gajah Park area. According to them, the safety factor is the second influencing factor of such choices.

Panduri and Suwandono (2015) have investigated the community behavior in using pedestrian paths in road Corridors Prof. H. Soedarto, s.h. They have employed quantitative methods, with descriptive analysis and show that:

- a. Development of the Jalan Prof. corridor. H. Soedarto, S.H. which is largely influenced by the existence of Diponegoro University, has given rise to irregularities in the use of pedestrian paths in this corridor.
- b. The form of community behavior in using pedestrian paths is dominated by pedestrians and street vendors.
- c. The behavior of people who use pedestrian paths tends to be for commercial activities because of the function and activities of the area in the Jalan Prof. corridor. H. Soedarto in the form of shops amounting to 79%.

Suhasman et al. (2017) have examined the community perceptions of parks in Makassar. They have employed a case study survey with a descriptive method and have concluded as follows:

- a. The condition of parks in the city of Makassar generally still lacks facilities and green vegetation and tends to carry out aesthetic functions rather than social and ecological functions.
- b. In general, people believe that parks need to be repaired and they are willing to pay to access parks whose facilities have been improved.

Literature above demonstrate several similarities. Many have used similar methods such as qualitative methods with analysis techniques using person centered mapping and place centered mapping. They all also look at sidewalk locations directly integrated with open spaces, such as parks. They show that behavior of the sidewalk users tends to vary depending on the level of obstacles encountered on the sidewalks. However, there is a paucity of research that examine people's perceptions and behaviours at park integrated sidewalks. It is thus justifiable to make attempts to fill this gap of knowledge.

Research Methods

This research employed observations, questionnaires and interviews as a methodology. Direct field observations were carried out at site: Sultan Hasanuddin Street, Makassar City, Indonesia, 8 times, 2 times each Monday, Wednesday, Friday and Sunday. 20 randomly selected pedestrians were observed while using the sidewalk. They were then interviewed and were asked fill out the questionnaire about comfort and safety on the sidewalk. Person-centered behavior maps were produced during the observations. They show how the movement of people took place during the period of observation.

Table 1: Research Schedule

Source : Author

No.	Location	Research Schedule
1.	Sultan Hasanuddin Street, Makassar City, Indonesia (Tiger Park integrated Sidewalk)	Monday, Wednesday & Friday 01.00 pm – 03.00 pm 08.00 pm – 09.00 pm Sunday 04.00 pm – 05.30 pm

Data Collection

Site Visit: During the site visit to the location, data was gathered as observed. A sketch of the location was used as a base map.

Observation: The location was first observed carefully, noting and describing the condition of the sidewalk with a sketch. Movements of the pedestrians were marked in separate plans during different times.

Documentation: Detailed photographs of few pedestrian were capturing while sketching. 20 respondent were involved.

Interviews: An open-ended interview was conducted in an effort to ascertain details of their behaviour as recorded.

Questionnaire : In addition to make sure that the behaviour shown were the exact response, several questions about comfort and safety were formulated as a questionnaire, which were. Administered to the 20 respondents.



Fig. 1: Condition of the Research Location 1
Source: Author, 2023

Findings and Discussion

The first site of this study was on Sultan Hasanuddin Street, Makassar City, Indonesia, where the sidewalk is integrated to the Tiger Park. The study is focused on describing the behaviour of pedestrians using the park integrated sidewalk which is used for many activities such as parking and selling. The behaviour of pedestrians were recorded with person-centered maps, to analyse respondents movement while using the sidewalk.

It was found that there were two different types of behaviour at this site. The first occurring mostly was that the respondents were avoiding the use of the sidewalk. 12 out of 20 respondents exhibited this behaviour. The second observation is that the respondents chose to walk in areas that are comfortable, safe and shady instead of the sidewalk. 8 respondents out of 20 exhibited this behaviour. These behaviours show how the pedestrians responded to the condition that the sidewalk is integrated to a park that can be used for several activities. These activities included doing exercises, resting, gathering and selling things.

The second research location was Jalan Sultan Hasanuddin, Makassar City, Ujung Pandang District, South Sulawesi Province, Indonesia. This location was chosen for several reasons, including the condition of the sidewalk which is included as one of a busy area of the town. However, in reality, the sidewalk cannot be fully used to accommodate pedestrians. Furthermore, because this location is integrated with a park, it is very suitable to be used as a research location based on the theme chosen.



Fig. 2: Condition of the Research Location 2

Source: Author, 2023

The condition of the sidewalk of the location 2 is shown in the Fig. 2. As shown, the area along the sidewalk was used for parking, which took away the space for pedestrian to walk. This sidewalk was 1 meter wide, with several cracks and holes.

Pedestrian Behavior 1

The observation shows 12 out of 20 respondent involved chose to avoid using the sidewalk. The behavior shown as observed involved walking while avoiding the use of the sidewalk because there are several obstacles in the form of parking and holes. The movement of the

respondent swere recorded and then analyzed with the person-centered mapping method as shown in the Fig. 3.

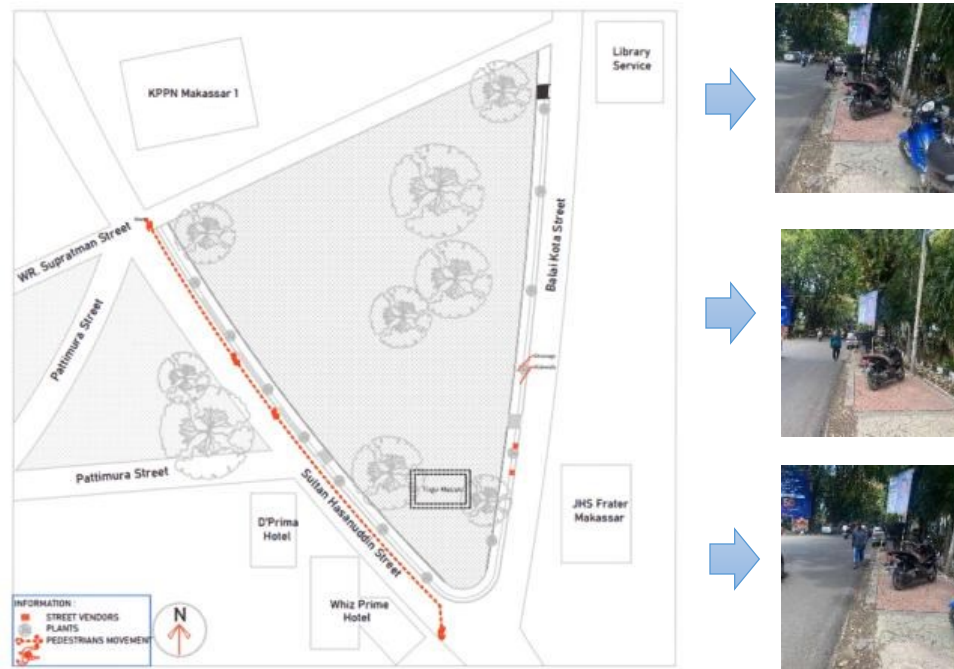


Fig. 3: Person Centered Mapping Respondent

Source: Author, 2023

Behavior analysis based on behavioral concepts and the data generated from the interviews and the questionnaire have ben analysed. According to Haryadi and Setiawan (2010), their behaviour related to the environmental conditions of the sidewalk are described as follows:

1. Behavior Setting: The sidewalk environment is used as a parking area for two-wheeled vehicles.
2. Environmental Perception: Respondents have the perception that the sidewalk environment has shady conditions due to the presence of the park.
3. Perceived Environment: The sidewalk environment s integrated with a park can be a forum for various activities.
4. Environmental Cognition: Image and Schemata. Environmental conditions are considered cool and comfortable because of the park, but the presence of parking interferences with the pedestrian activities on the sidewalk.
5. Environmental Learning: Respondents understood that the park's integrated sidewalk environment as a single unit that can provide a shady effect when walking, but there is not enough space to walk on the sidewalk because of parking.
6. Environmental Quality: The environment is considered to be of very good quality in terms of environmental health because there are many trees which can be a source of oxygen and shade. However, the physical condition of the sidewalks with many holes and cracks is dangerous for the pedestrians.
7. Territory: The sidewalk is 1 meter wide and is used for parking two-wheeled vehicles, making it impossible for sidewalk users to determine their territory when walking.

8. Personal Space and Crowding: There is not enough space to walk because the sidewalks are filled with parking for two-wheeled vehicles at several points.
9. Environmental Pressures and Stress: In busy sidewalk conditions, respondents experienced a higher level of stress when walking on the sidewalk. This was because respondents needed to avoid obstacles in the form of parking, holes and cracks, apart from that, when passing other pedestrians, respondents had to dodge a little to share space for walking.

Pedestrian Behavior

The observation shows 8 out of 20 respondent involved chose to avoid using the sidewalk because there are several obstacles in the form of parking and holes. In response to the existence of the park, the respondent then entered the park area for selling, exercising and resting. The second behavior shown is that the pedestrians tended to choose to walk in areas that are comfortable, safe and shady. After taking a while at the park, respondents finally got back to the other side of the sidewalk, continued walking until the end of the sidewalk. The movement of the respondents were recorded and then analyzed with the person-centered mapping method, along with the questionnaire and the interviews.

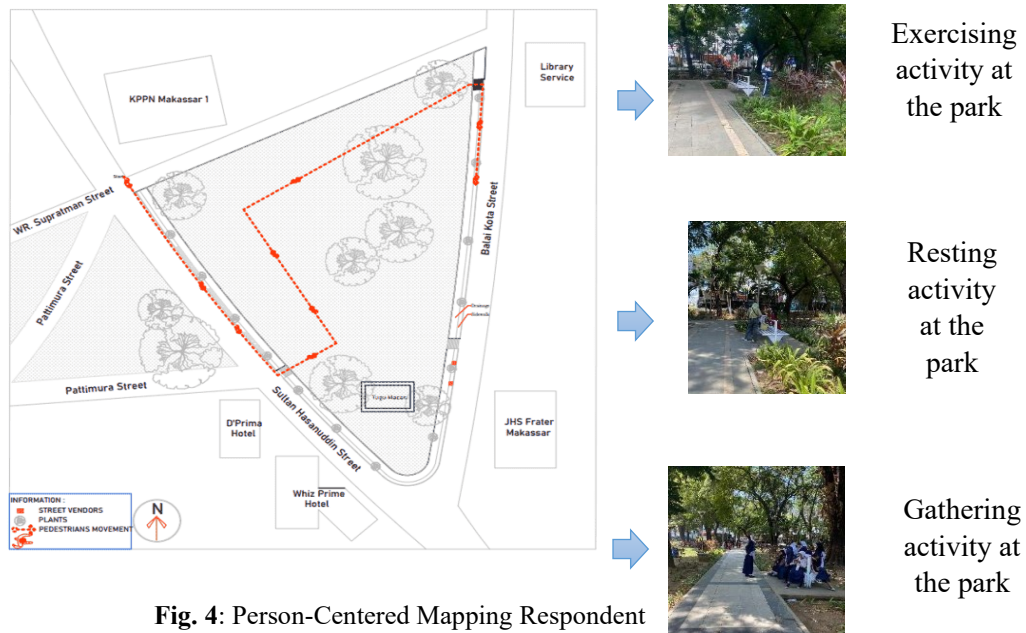


Fig. 4: Person-Centered Mapping Respondent

Source: Author, 2023

Behavior analysis based on the behavioral concept according to Haryadi and Setiawan (2010) is as follows :

1. Behaviour Mapping: The setting at research location 2 shows that the sidewalk is used as a parking area for two-wheeled vehicles.
2. Environmental Perception: The respondents' perception is that the sidewalk environment does not provide freedom for walking.
3. Perceived Environment: Respondents perceived that the park environment on the sidewalk could provide a safer and more comfortable walking area.

4. Environmental Cognition, Image and Schemata: Respondents understand that the sidewalk environment and humans influence each other, the condition of the sidewalk environment influences the activities and behavior that occur.
5. Environmental Learning: Respondents understand that the condition of the sidewalk is used as a parking area for two-wheeled vehicles as a response to the need for shady parking.
6. Environmental Quality: Respondents thought that the sidewalk environment was of good quality because there were lot of trees which made the surrounding area shady. However, the physical condition of the sidewalk which had a lot of holes and cracks reduced the quality of the environment because it could endanger users.
7. Territory: It is difficult for the respondents to avoid intervention or disturbance from other sidewalk users when using the sidewalk because the sidewalk is not very wide but is also used as a parking area.
8. Personal Space and Crowding: The presence of vehicle parking on the sidewalk reduces the personal space for pedestrians.
9. Environmental Pressure and Stress: The level of stress on the environment increases when using the sidewalk and encountering obstacles on it because the sidewalk has holes at several points.

Sidewalk Users Perceptions

This research also used Likert Scale to evaluate the user opinions about the condition of the park integrated sidewalk. The Likert scale is used to measure attitudes and opinions. In a Likert scale, respondents are asked to complete a questionnaire that requires them to indicate their level of agreement with a series of questions. The questions or statements used in this research are usually called research variables. The Likert scale is a form of scale used to collect data in order to find out or measure qualitative or quantitative data.

There are 2 sets of formulated questions posed to the 20 respondents. The first set of questions comprised the following.

1. What is the current condition of the sidewalks?
2. What is the level of comfort felt when using the sidewalk?
3. What is the level of safety felt when using the sidewalk?

The result obtained are visualized in graph 1, as follows:

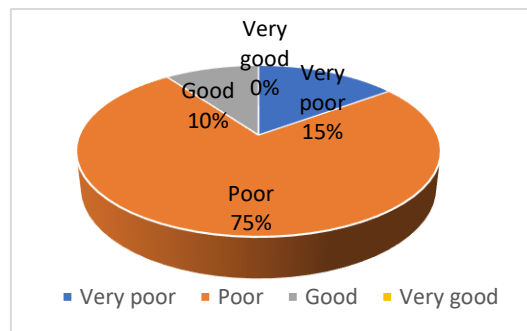


Fig. 5: Graph of Respondent Score Acquisition
Source: The End, 2023

Table 2: Respondents Scores
Source: The End, 2023

	Score	Amount	Result
Very Poor	1	3	3
Poor	2	15	30
Good	3	2	6
Very Good	4	0	0
Total score	9	20	39

From the measurement results using the formula:

- $Y = 4 \times 20 = 80$ (Highest score x Number of respondents)
- $X = 1 \times 20 = 20$ (Lowest score x Number of respondents)

With intervals

- $I = 100 / \text{Total scores (Likert)}$
- Then $= 20 / 4 = 25$
 - Interval 0% – 24.99% = Very (disagree/bad/very poor)
 - Interval 25% – 49.99% = (Disagree / not good/poor)
 - Interval 50% – 74.99% = (Agree/Good/like)
 - Interval 75% – 100% = Strongly (agree/Good/Like)
- $Y = 4 \times 20 = 80$
- $X = 1 \times 20 = 20$

Then the Index Formula $\% = \text{Total Score} / Y \times 100$

$$= \text{Total score} / Y \times 100$$

$$= 39 / 80 \times 100$$

$$= 48,75 \%, \text{ is in the "Poor" category.}$$

Based on the results of the calculations above, it is concluded that the overall percentage of the respondents was in a "Poor" condition.

The second set of question was as follows:

1. What is your opinion regarding to the lights and plants on the sidewalk?
2. What is your opinion regarding to the street vendors who use parks and sidewalks?
3. What is your opinion regarding to the illegal parking in parks and sidewalks?

The results obtained are visualized in the table 2 as follows.

Table 3: Respondents Scores
Source: The End, 2023

	Score	Amount	Result
Strongly annoying	1	4	4
Annoying	2	14	28
Not Annoying	3	2	6
Strongly not annoying	4	0	0
Total score		20	38

$$Y = 4 \times 20 = 80$$

$$X = 1 \times 20 = 20$$

- Interval 0% – 24.99% = Strongly (annoying /bad/very poor)

- Interval 25% – 49.99% = (Annoying / not good/poor)
 - Interval 50% – 74.99% = (Not annoying/Good/like)
 - Interval 75% – 100% = Strongly (Not annoying/Good/Like)
 - Then the Index Formula % = Total Score / Y x 100
- = Total skor / Y x 100
 = 38 / 80 x 100
 = 47,5 %, is in the “Annoying” category

Based on the results of the calculations above, it is concluded that the overall percentage of the respondents were in the "Annoying" condition.

Conclusion

Park integrated sidewalk environment on Jl. Sultan Hasanuddin shows the use of sidewalks as parking spaces for two-wheeled vehicles. The condition of the 1-meter-wide sidewalk is quite shady because there are rows of large trees. There is also a single park, namely Taman Macan which is equipped with various facilities such as garden lights, park chairs, trash cans, monuments and several types of ornamental plants in this area. Thus, it can accommodate various activities.

Based on the results of the behavioral observations and perception measurements, it is concluded that there are two types of behavior that exist at the research location. These behaviors were exhibited by 20 respondents involved. 12 out of 20 respondents refused to use the sidewalk because of several obstacle they found at the sidewalk. The second behavior shows a tendency to choose the park area as a safer and more comfortable area for walking so that pedestrians can use the park to take a moment to rest, exercise, gathering and even selling. Based on the results of calculations using the Likert scale regarding the safety and comfort of sidewalks as well as the use of sidewalks as sales and parking areas, it is concluded that the percentage of respondents' perceptions regarding the condition of sidewalks is "poor" due to the presence of parking and is considered as "annoying".

Given the above result, the Park Integrate Sidewalk environment on Jl. Sultan Hasanuddin exemplifies an environment that influences each other. However, this article brings up the issue of how an environment creates behavior. This park integrated sidewalk research is considering the research location selection criteria that is different from previous studies. This research allow us to understand that an environment can produce different behavior depending on how a person responds to its condition. Many studies on behavioral architecture have been carried out, for this reason this research tries to find the latest findings that can differentiate it from previous research, It was found that there were 2 behaviors that were caused by the effects of having a park around the sidewalk.

References

- Anisah N. F. (2016) Kajian Behavior Setting di Pasar Tugu Simpang Lima Gumul Kediri. *Jurnal Arsitektur NALARs* Vol. 15 No 2: pp. 99-108
- Annisa Aulia, Nur'aini, Ratna Dewi., & Suwandi. (2021) Kajian Konsep Arsitektur Perilaku Dan Tingkat Kenyamanan Penghuni Pada Hunian Vertical Dengan Analisis Behavioral Mapping (Studi Kasus: Rusunawa Pinus Elok Tower C, Jakarta Timur). *Vitruvian : Jurnal Arsitektur, Bangunan Dan Lingkungan*, [s.l.], v. 10, n. 3, p. 257-266, june. Issn 2598-2982. Available at: <https://publikasi.mercubuana.ac.id/index.php/vitruvian/article/view/10674>. Date accessed: 29 dec. 2023. Doi:<http://dx.doi.org/10.22441/vitruvian.2021.v10i3.009>.

- Barker, R. G. (1978) *Habitats, Environments and Human Behavior: Studies in Ecological Psychology and Eco-behavioral Science from the Midwest Psycho-logical Field Station, 1947– 1972*. San Francisco: Jossey-Bass.
- dan Dewi, Wawan (2010) *Teori dan Pengukuran Pengetahuan, Sikap dan Perilaku Manusia*, Yogyakarta: Nuha Medika
- Fitria, T. A. (2018) Pengaruh seting ruang terhadap perilaku pengguna dengan pendekatan behavioral mapping. *Jurnal arsitektur dan perencanaan (juara)*, 1(2), 183–206.
<https://doi.org/10.31101/juara.v1i2.775>
- Haryadi & Setiawan, B. (2020) *Arsitektur, Lingkungan, Dan Perilaku*. 3 Ed. Yogyakarta: Gajah Mada University Press.
- Kurniawan, Freddy. (2019) Pola - Pola Pemanfaatan Trotoar Oleh Pedagang Kaki Lima Di Jalan Mangga Besar – Jakarta. *Jurnal Muara Sains, Teknologi, Kedokteran dan Ilmu Kesehatan*. 3. 171. 10.24912/jmstkik.v3i1.2842.
- Metode Observasi dengan Pemetaan Perilaku (Behavior Mapping) available at https://spada.uns.ac.id/pluginfile.php/638324/mod_resource/content/1/6.%20Pemetaan%20Perilaku.pdf
- Notoatmodjo, (2010) *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- Malina, Asmi C., et al. (2017) "Kajian Lingkungan Tempat Pemilahan Sampah di Kota Makassar." *Jurnal Inovasi dan Pelayanan Publik Makassar*, vol. 1, no. 1, , pp. 14-27.
- Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat Nomor 03/PRT/M/2014 Tahun 2014. Retrieved on August 2023, from <https://peraturan.bpk.go.id/Details/128205/permen-pupr-no-03prtm2014-tahun-2014>
- Peta Kecamatan Ujung Pandang, Kota Makassar. Retrieved 4 December 2023, from https://id.m.wikipedia.org/wiki/Berkas:Peta_Kecamatan_Ujung_Pandang_Kota_Makassar.jpg
- Prima, Taslim & Prayogi, Lutfi. (2020) Kajian Perilaku Pejalan Kaki Pada Kawasan Transit Oriented Development (Tod). *Jurnal Arsitektur ZONASI*. 3. 1-10. 10.17509/jaz.v3i1.22842.
- Panduri, R. and Suwandono, D. (2015) "Perilaku Masyarakat dalam Penggunaan Jalur Pedestrian di Koridor Jalan Prof. H. Soedarto, s.h.," *Teknik PWK (Perencanaan Wilayah Kota)*, vol. 4, no. 2, pp. 239-252, May. <https://doi.org/10.14710/tpwk.2015.8443>
- Saraswati, Z. F.& Alvianti, V. (2020) Presepsi Stakeholder Terhadap Elemen Jalur Pejalan Kaki Di Kawasan Taman Gajah, Kota Bandar Lampung. *Jurnal Litbang Provinsi Jawa Tengah: Vol 20 No 1*
- Setiawan, Hariadi. B. (2010) *Arsitektur, Lingkungan dan Perilaku*. Yogyakarta: UGM Press.
- Stępień, M. & Dudek, M. (2021) "The courtroom as a built environment: On the usefulness of Amos Rapoport's theoretical framework", *Oñati Socio-Legal Series*, Vol. 11(6S), pp. S228-S253. Available at: <https://opo.iisj.net/index.php/osls/article/view/1349>
- Sulawesi. (2023) Peta Sulawesi Selatan, Indonesia. Retrieved 4 December 2023, from <https://map-bms.wikipedia.org/wiki/Sulawesi>