# Preferences and Usage Patterns in Urban Green Spaces: A Case Study of Visitors at Cadika Pramuka Park, Medan City

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| ARTICLE INFO | ABSTRACT |
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| <br><br>**How to cite:**<br> | The presence of urban green spaces is one of the key contributors to ecological balance, social interaction, and community well-being within city spaces. This study aims to understand visitor preferences and their usage habits of Cadika Pramuka Park in Medan City following its 2024 revitalization initiative. Using structured on-site surveys, 97 users were surveyed, and descriptive statistics, Spearman correlations, Chi-square tests, and regression analysis were practiced. The findings of this study indicate that age, occupation, income, and marital status influence the duration and type of activity, as well as the timing. Factors associated with accessibility such as travel time and perceived ease of access have a marked impact on frequency and activity types. The extent of involvement of both active and passive activities is mediated by the perceptions towards facilities.These results highlight the significance of people-centred management which focuses on the level of accessibility, infrastructure quality and knowledge of users with different demographic profiles. The study offers empirical evidence towards the construction of a more open-access, usable and sustainable urban green space planning within Medan City.<br><br>**Keywords:** preferences, urban green space*, usage* |

## 1. Introduction

In the context of sustainable urban development in Indonesia's cities, public green space is important since it supports ecological processes, creates spaces for social exchanges, and benefits population health and wellbeing. This function is underscored by the Sustainable Development Goal 11 which aims to bring in development plans geared towards inclusive, safe, resilient and sustainable cities [1]. Green open spaces are regulated through spatial planning law in Indonesia, that is, the cities have given at least 30 percent of the whole land for using green space. Of this scale, a minimum amount of at least 20 percent has to be reserved specifically for the public urban green space [2].

Even though Medan City accounts for around 11,642.90 hectares (41.35 percent of the city area) of green space, the distribution and quality differ substantially [3]. Some of the districts are below the required amount, and previous research has documented recurring problems such as poor-quality facilities, lack of community involvement and ineffective managerial coordination [4]. These conditions underscore the lack of green space and indicate a gap between the availability of it, and real usability and access for residents.

Human-centred approaches to urban design, which design around user needs, behavior and experiences, promote the need to balance the natural beauty of space within the public spaces. Public spaces are effective when these are human-scale built on knowledge (of what humans do with, see and experience them) [5]. Previous research confirms the above assertion, that socio-demographic variables, such as age, sex, education, employment, and income influence park use behaviors preferences [6]. Similar patterns have been reported in Indonesia, which reports large correlation between socio-demographics and frequency, duration, travel distance, and recreational drivers of visitation [7]. Educational level also determines the expectations about different urban parks' roles [8]. These results highlight the necessity of comprehending the visitor profiles being the assessment of the performance of public green space.

One of the largest urban green spaces in Medan is Cadika Pramuka Park, with an area of approximately 25.43 hectares. The latest revitalization of Cadika Park completed in 2024 added sports facilities, playground zones and public squares. The park is now considered a popular recreational destination inside the city. There are, however, operational and safety challenges to the park even with such improvements. The collapse of a hanging bridge caused by overcrowding, reports of motorcycle theft, and damages in the newly installed facilities also serve as examples of failures in post-revitalization management and enforcement. These circumstances show how much we know yet about how visitors use the park and the way that visitors' needs and motivations mesh with the current set up of facilities and management processes.

Cadika Pramuka Park is highly valued as a multifunctional urban green space with great potential to serve recreation, socialization, and environmental engagement. Without understanding of visitor preferences and usage patterns, park management is in danger of falling short of what the public wants. With the increasing needs of green spaces worldwide, a user-oriented design philosophy that can serve the public interest can be established in order to enhance the performance of the public green space facilities providing comfort, safety, accessibility and responding to the needs of visitors [9].

There have been few studies so far that look at Cadika Pramuka Park through socio-demographic profiles, user preferences, and usage patterns as part of the Human–Environment Interaction model. Research on Medan City indicates that certain challenges persisted in terms of physical conditions, functionality of facilities, and managerial practices [4]. To date, the absence of evaluations of post-revitalization facilities, limited knowledge of public preferences, low decision making on the part of the institutions, and many systems are still predicated on a very top-down nature of the design [10]. The results indicate a potential need for more research on visitor perceptions of and use of Cadika Pramuka Park as a public green space. The study investigates the visitors' preference and use of Cadika Pramuka Park, Medan City. The outcome is expected to help in developing evidence-based policies so that parks can be designed and managed to be more user friendly, and for public green spaces that are accessible with social and environmental sustainability, in line with community needs.

## 2. Method

This study employed a quantitative research method to explore visitors preferences and usage patterns at Cadika Pramuka Park, Medan City. Analysis aimed at socio-demographic characteristics, perceived accessibility and facility conditions, and behavioral patterns of park use.

### 2.1 Data Collection Method

Primary data were gathered on-site through a visitor questionnaire. The target population were all visitors in Cadika Pramuka Park during the data collection period. Although the actual population size was not known, a sample size was determined with the help of the Cochran formula for proportion. Based on a confidence level

of 95 percent and margin of error of 10 percent, an estimated sample of 97 participants was obtained. Only respondents aged ≥ 15 years were included in the questionnaire to ensure adequate cognitive capacity, autonomy of mobility and reliable park-use information.

The study analyzed two categories of variables:

1. **Independent variables**

   Socio-demographic characteristics including age, gender, level of education, occupation, income, marital status, and cultural background [11]. Perception of accessibility refers to travel time, transport mode, and ease of access, and perceptions of infrastructures, comfort, and safety.

2. **Dependent variables**

   Usage patterns, operationalized into activities performed (active or passive), frequency of visits, duration of visits, and preferred time of day.

All questionnaire items required single responses, except for activity types, which allowed multiple answers due to the diversity of activities typically performed in public parks.

**2.2 Data Analysis Method**

Visitor survey data of Cadika Pramuka Park will be analyzed with descriptive and inferential statistics in SPSS. Descriptive statistics on socio-demographic characteristics and usage include visit frequency, duration, time of visit, and types of activities. Inferential evaluations are performed as follows: Chi-square for the analysis of the relation between the socio-demographic characteristics and park usage patterns; Spearman correlation for the assessment of accessibility and park usage; and regression to evaluate the impact of perceived facilities, comfort, and safety on park usage, identifying which aspects primarily influence the user's preferences.

**3. Result and Discussion**

Park-use preference is defined as the choice of when, how, and why urban parks or open green spaces are used. It indicates the conditions which influence visitors' choice to visit a park; ultimately, it is key to identifying and managing green spaces that respond to the needs of urban communities. Preferences on public green space usage are relevant to understanding the most practical and sustainable approaches to park use. Accessibility of location and supportive amenities has a considerable effect on the behavior of visitors and decisions made [12]. This understanding of dimensions informs the design of green-space and their management, aiming to enable and promote diverse, inclusive, comfortable, functional environments for the majority of potential users and their populations, facilitating physical health, psychological welfare and the active social life of the urban population.

The questionnaire results are described in three tables in the next section. Table 1 shows the socio-demographic profile of the respondents, Table 2 provides summary information on perceived park facilities, and Table 3 shows their usage patterns. These tables are displayed and the following analysis is carried out to test for relationships among variables based on their chi-square tests, Spearman correlations and regression models.

**Table 1.** Socio-Demographic Variable.

| Indicator | Parameter | Percentage |
|-----------|-----------|------------|
| Gender | Male | 54.6 % |
|  | Female | 45.5 % |
| Age | 15 - 24 | 49.50% |
|  | 25 - 34 | 20.60% |
|  | 35 - 50 | 18.60% |

| Indicator | Parameter | Percentage |
|---|---|---|
| | 51 - 60 | 8.20% |
| | >61 | 3.10% |
| Education Level | Senior high school or equivalent (SMA/SMK) | 47.40% |
| | Higher education (college/university) | 52.60% |
| Occupation | Student | 44.33% |
| | House Wife | 14.43% |
| | Employee / self-employed | 32.99% |
| | Retired | 3.09% |
| | Unemployed | 5.15% |
| Income Level | No income | 54.64% |
| | < IDR 2,000,000 | 12.37% |
| | IDR 2,000,000 – 4,000,000 | 17.53% |
| | IDR 4,000,000 – 8,000,000 | 13.40% |
| | > IDR 8,000,000 | 2.06% |
| Marital Status | Single | 68.04% |
| | Married | 30.93% |
| | Divorced | 1.03% |
| Ethnicity | Batak | 46.39% |
| | Javanese | 31.96% |
| | Aceh | 6.19% |
| | Nias | 4.12% |
| | Minangkabau | 5.15% |
| | Other ethnic groups | 6.19% |

**Table 2.** Perception of Accessibility and Facility Variable.

| Indicator | Sub-Indicator | Parameter | Percentage or Mean Likert |
|---|---|---|---|
| Accessibility | Travel Time | < 5 minutes | 8.25% |
| | | 5–15 minutes | 42.27% |
| | | 15–30 minutes | 30.93% |
| | | 30–60 minutes | 11.34% |
| | | >60 minutes | 7.22% |
| | Mode of Transportation | Walking | 3.09% |
| | | Bicycle | 1.03% |
| | | Motorcycle | 71.13% |
| | | Car | 20.62% |
| | | Public transportation | 4.12% |
| | Level of Accessibility | | 3.9 |
| Facility | Infrastructure | Pedestrian paths | 4.0 |
| | | Parking area | 4.0 |
| | | Park benches, gazebos, or canopies | 4.0 |
| | | Trash bins | 4.0 |
| | | Toilets | 3.4 |
| | | Children's playground | 3.9 |
| | | Jogging track and sports facilities | 4.2 |
| | | Water features (lake, fountain) | 4.0 |
| | | Information boards, park maps, and directional | 4.1 |
| | | signs | 4.1 |
| | | Vegetation | 4.0 |

| Indicator | Sub-Indicator | Parameter | Percentage or Mean Likert |
|---|---|---|---|
| | | Attractive and aesthetic design that reflects local identity | |
| | Comfort | Free from scattered trash, rotten leaves, and unpleasant odors | 3.4 |
| | | Lighting not too glaring; adequate shade from trees; visually comfortable | 4.1 |
| | | Quiet atmosphere, distanced from traffic noise or industrial activities | 4.1 |
| | | Fresh air, free from smoke or pollution odors | 4.1 |
| | | Not overly crowded, allowing comfortable relaxation or activities | 3.9 |
| | Safety | Availability of CCTV or security personnel/park officers | 3.6 |
| | | Children's play area protected from traffic or other hazards | 4.0 |
| | | Users feel safe from theft, harassment, or violence | 3.8 |
| | | No dark, "hidden," or isolated corners in the park | 3.8 |

**Table 3.** Park Usage Pattern Variable.

| Indicator | Parameter | Percentage |
|---|---|---|
| Visiting Frequency | Very Frequent (>8 times per month) | 7.22% |
| | Frequent (4–8 times per month) | 14.43% |
| | Occasional (2–4 times per month) | 28.87% |
| | Rare (1–2 times per month) | 27.84% |
| | Very Rare (<1 time per month) | 21.65% |
| Visiting Duration | < 30 minutes | 4.12% |
| | 30 minutes–1 hour | 28.87% |
| | 1–2 hours | 31.96% |
| | >2 hours | 35.05% |
| Time of Visit | Morning (06:00–10:00) | 24.74% |
| | Midday (10:00–14:00) | 10.31% |
| | Afternoon (14:00–18:00) | 64.95% |
| Activity | Active Activities (children's play, sport activities). | 60.82% |
| | Passive Activities (enjoying nature, social/cultural activities). | 71.13% |

**3.1 Park Usage Preferences across Demographic Groups**

In this research, the socio-demographic profile of visitors in Taman Cadika Pramuka was analyzed by examining its user's characteristics in relation to park usage habits. This sample is dominated by young people who have a slightly larger proportion of female than male respondents, and both senior high school graduation figures and university diploma figures are quite balanced. The largest occupation group is students, more than half of whom do not have personal income, most of whom are unmarried, and Batak and Javanese are the most represented ethnic groups as shown in Table 1.

Chi-square analysis was performed to determine if these socio-demographic characteristics are statistically associated with park use, specifically activity type and frequency of visits, duration of stay and preferred visiting time at the park. Results of the test indicate which user groups exhibited significantly dissimilar behavioral patterns, facilitating a finer-grained understanding of the influences of age, gender, occupation,

educational level, income level, marital status, and ethnicity on engaging with Cadika Pramuka Park. The corresponding relationship (with respect to the outcomes in Table 4) is detailed below.

**Table 4.** Chi-square analysis of socio-demographic characteristics on Park Usage preferences

| Sosio-Demographic Characteristic | Park Usage | Value | Significance |
|---|---|---|---|
| Gender | Visiting Frequency | 7.889a | 0.096 |
| | Visiting Duration | 3.723a | 0.293 |
| | Time of Visit | 1.026a | 0.599 |
| | Active Activity | 1.253a | 0.263 |
| | Passive Activity | 2.205a | 0.138 |
| Age | Visiting Frequency | 23.560a | 0.100 |
| | Visiting Duration | 24.843a | 0.016* |
| | Time of Visit | 26.642a | 0.001** |
| | Active Activity | 27.471a | 0.000** |
| | Passive Activity | 17.597a | 0.001** |
| Education Level | Visiting Frequency | 4.086a | 0.394 |
| | Visiting Duration | 2.590a | 0.459 |
| | Time of Visit | 4.317a | 0.115 |
| | Active Activity | 1.070a | 0.301 |
| | Passive Activity | 4.489a | 0.034* |
| Occupation | Visiting Frequency | 27.090a | 0.040* |
| | Visiting Duration | 35.105a | 0.000** |
| | Time of Visit | 10.935a | 0.205 |
| | Active Activity | 21.945a | 0.000** |
| | Passive Activity | 8.465a | 0.076 |
| Income Level | Visiting Frequency | 22.344a | 0.132 |
| | Visiting Duration | 15.327a | 0.224 |
| | Time of Visit | 10.574a | 0.227 |
| | Active Activity | 12.262a | 0.016* |
| | Passive Activity | 6.285a | 0.179 |
| Marriage Status | Visiting Frequency | 14.344a | 0.279 |
| | Visiting Duration | 23.039a | 0.006** |
| | Time of Visit | 30.739a | 0.000** |
| | Active Activity | 29.810a | 0.000** |
| | Passive Activity | 8.242a | 0.041* |
| Ethnicity | Visiting Frequency | 56.098a | 0.324 |
| | Visiting Duration | 35.337a | 0.638 |
| | Time of Visit | 28.149a | 0.351 |
| | Active Activity | 12.019a | 0.526 |
| | Passive Activity | 13.708a | 0.395 |

Note: * indicates significance at α = 0.05 (p < 0.05), ** indicates significance at α = 0.01 (p < 0.01)

The values of significance, expressed in blue, are $p < 0.05$, indicating there is a relationship between the two variables. Gender does not correlate with the variables of park activity use, suggesting men and women are virtually indifferent in visit frequency, duration, times visited, and type of activity. This agrees with existing data that found no significant gender differences among park visit duration [13].

Age is significantly associated with the majority of park use dimensions, such as visit duration, time of visit, and both passive and active use, but not with visit frequency. Young visitors usually enter in the afternoon and stay fewer hours. Visits become longer as age increases and they start in the morning, especially among visitors aged 51 and older. This trend reflects previous research on parks which showed older adults tend to spend more time in parks [13,14]. Physical activity diminishes drastically with age. Younger visitors show the most physical activities and are the most well diversified in their movements, whilst older visitors often exhibit less movement and engage primarily in passive activities. In summary, according to the previous analyses, age significantly predicts the type of activity (i.e., physical activity) [13]. Age broadly impacts length of visits, time spent, and activity types. One relationship has been noted with education, specifically passive activity.

Education level does not impact visit frequency, visit duration, time of visit, or active activities. Senior, secondary and high school education respondents tend to have a healthy balance of both active and passive activities, and university-educated respondents are predominantly passive users (80 percent). This implies that individuals with higher education may access parks for leisure purposes because of aesthetic appreciation and/or relaxation rather than for vigorous involvement in exercise [12].

Occupation influences visit frequency, visit duration, and active activities but does not affect time of visit or passive activities. The largest category, students, exhibit the most variety in their overall patterns of usage. They tend to have different frequency of visitation, and these visits are usually shorter due to mobility and schedules. Private sector employees have medium frequency of use and moderate visit duration which can be influenced by other factors like work-hour constraints. Homemakers have lower frequency but longer visit duration. On the subject of types of activities, students are the most active population, while private-sector employees are the second. In contrast, homemakers, unemployed people, and particularly retirees are poorly physically active. Older adults exhibit low levels of physical activity; they do not engage in sports at all due to age-related weakened physical ability and tendency to engage in less intense activities.

Income only affects active activities ($p = 0.016$), while other dimensions of park use show no relationship with income level. Physical activity is higher among low- and middle-income groups, including those without income, who still participate actively in sports. Middle to upper-income groups exhibit lower amounts of exercise due perhaps to work or busy life [14]. In contrast, extremely wealthy (> Rp 8,000,000) respondents are physically active, which indicates that the participants have more flexible schedules and are more likely to focus on physical fitness [15]. Overall, levels of active activity differ between income groups, but park-use patterns appear generally consistent between groups.

Marital status impacts visit duration, time of visit, and both active and passive activities, but not visit frequency. This indicates that relationship status does not determine how often people visit parks but does influence how and when they use them. Unmarried visitors tend to visit in the afternoon, linger for brief to moderate periods, and exercise vigorously. The pattern is completely different among married people: they tend to go early in the morning, keep their visit longer, do very little physical activity, and overwhelmingly take part in passive activity. Marital status impacts visit timing and purpose: families visit in the morning and stay longer [14].

All p values for the socio-demographic variable ethnicity were more than 0.05 across visit frequency, visit duration, time of visit, active activities, and passive activities. This indicates there is no meaningful effect of ethnic background on park use trends. Visits to the park and activities reported by visitors from different ethnic groups remain similar without much variation [11].

### 3.2 Effect of Perception of Accessibility and Facilities on Park Usage

Table 5 presents the Spearman correlation results between accessibility variables and park usage.

**Table 5.** Relationships Between Accessibility Variables and Park Use Patterns

| | | Travel Time | Mode of Transportation | Level of Accessibility | Visiting Frequency | Visiting Duration | Time of Visit | Active Activities | Passive Activities |
|---|---|---|---|---|---|---|---|---|---|
| **Travel Time** | Correlation Coefficient | 1 | 0.17 | -0.343** | -0.210* | 0.036 | 0.041 | 0.008 | 0.13 |
| | Sig. (2-tailed) | | 0.096 | 0.001 | 0.039 | 0.729 | 0.69 | 0.941 | 0.205 |
| | N | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| **Mode of Transportation** | Correlation Coefficient | 0.17 | 1 | -0.136 | -0.069 | 0.155 | -0.113 | -0.262** | 0.096 |
| | Sig. (2-tailed) | 0.096 | | 0.183 | 0.501 | 0.13 | 0.272 | 0.009 | 0.352 |
| | N | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| **Level of Accessibility** | Correlation Coefficient | -0.343** | -0.136 | 1 | 0.069 | -0.014 | 0.207* | 0.067 | -0.161 |
| | Sig. (2-tailed) | 0.001 | 0.183 | | 0.502 | 0.893 | 0.042 | 0.512 | 0.116 |
| | N | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| **Visiting Frequency** | Correlation Coefficient | -0.210* | -0.069 | 0.069 | 1 | -0.183 | -0.053 | 0.280** | -0.064 |
| | Sig. (2-tailed) | 0.039 | 0.501 | 0.502 | | 0.073 | 0.603 | 0.005 | 0.536 |
| | N | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| **Visiting Duration** | Correlation Coefficient | 0.036 | 0.155 | -0.014 | -0.183 | 1 | -0.094 | -0.415** | 0.134 |
| | Sig. (2-tailed) | 0.729 | 0.13 | 0.893 | 0.073 | | 0.357 | 0 | 0.192 |
| | N | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| **Time of Visit** | Correlation Coefficient | 0.041 | -0.113 | 0.207* | -0.053 | -0.094 | 1 | 0.096 | -0.217* |
| | Sig. (2-tailed) | 0.69 | 0.272 | 0.042 | 0.603 | 0.357 | | 0.348 | 0.032 |
| | N | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| **Active Activities** | Correlation Coefficient | 0.008 | -0.262** | 0.067 | 0.280** | -0.415** | 0.096 | 1 | -0.522** |
| | Sig. (2-tailed) | 0.941 | 0.009 | 0.512 | 0.005 | 0 | 0.348 | | 0 |
| | N | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |
| **Passive Activities** | Correlation Coefficient | 0.13 | 0.096 | -0.161 | -0.064 | 0.134 | -0.217* | -0.522** | 1 |
| | Sig. (2-tailed) | 0.205 | 0.352 | 0.116 | 0.536 | 0.192 | 0.032 | 0 | |
| | N | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |

Note: * indicates significance at $\alpha = 0.05$ ($p < 0.05$), ** indicates significance at $\alpha = 0.01$ ($p < 0.01$)

Results of the Spearman correlation analysis of visitation patterns identified a number of meaningful relationships between the accessibility factors (travel time, mode of transport, and perceived ease of access) and patterns of park usage (frequency, duration, time of visit, and type of activity). Travel time has a significant negative correlation with ease of access (r = –0.343, p = 0.001), suggesting that the longer it takes to reach the park, the lower the perceived accessibility. Travel time additionally shows a negative correlation with visit frequency (r = −0.210, p = 0.039), indicating distance and travel duration remain the primary barriers that lower visitation frequency. This idea is consistent with the fact that physical accessibility is a major factor for public space usage [12].

Mode of transport reveals only one significant association, a negative correlation with active activity (r = −0.262, p = 0.009). That indicates that those who are more active in physical activity tend to adopt simple or physically active forms of transport (for example, walking or cycling). Transport mode is not significantly associated with other park use aspects. The perceived ease of access is positively related to time of visit (r = 0.207, p = 0.042). Visitor visit hours in the park are flexibly chosen the more accessible the park. Although not significant, one finding emerges: The direction of association with visit frequency is also positive. This indicates that better accessibility tends to facilitate consistent use.

There is a significant positive correlation between frequency of visits and active activity (r = 0.280, p = 0.005), which might imply that the frequent visitor is the regular physical activity. This further illustrates the role of parks as regular sports and exercise establishments. Active activity has a negative and significant inverse relationship with visit duration (r = −0.415, p < 0.001). Visitors engaging in physical activity tend to have shorter, goal-oriented visits. However, longer duration visitation is correlated with passive or social activities.

Time of visit also has a significant negative relationship (r = –0.217, p = 0.032) with passive activity, which implies that there should be less variation due largely to high rates of passive (or social) activities; if individuals engage in higher levels of these activities they tend to have smaller changes in their presence by visiting hours. The high negative correlation (r = –0.522) between active and passive activities suggests that the more active behavior users (e.g., jogging in the park) do less sitting or relaxing passively.

**Table 6.** Relationships Between Facility Variables and Park Use Patterns

| Independent Variable | Dependent Variable | Estimate (β) | Std. Error | Wald | Sig. |
|---|---|---|---|---|---|
| Infrastructure | Visiting Frequency | 0.056 | 0.025 | 5.041 | 0.025* |
| | Visiting Duration | -0.053 | 0.026 | 4.299 | 0.038* |
| | Time of Visit | 0.035 | 0.027 | 1.611 | 0.204 |
| | Active Activity | 0.072 | 0.047 | 2.288 | 0.130 |
| | Passive Activity | 0.072 | 0.047 | 2.288 | 0.130 |
| Comfort | Visiting Frequency | 0.070 | 0.055 | 1.605 | 0.205 |
| | Visiting Duration | -0.050 | 0.056 | 0.785 | 0.376 |
| | Time of Visit | 0.007 | 0.062 | 0.012 | 0.912 |
| | Active Activity | 0.061 | 0.116 | 0.279 | 0.597 |
| | Passive Activity | 0.061 | 0.116 | 0.279 | 0.597 |
| Safety | Visiting Frequency | 0.071 | 0.062 | 1.295 | 0.255 |
| | Visiting Duration | 0.009 | 0.063 | 0.019 | 0.891 |

| Independent Variable | Dependent Variable | Estimate (β) | Std. Error | Wald | Sig. |
|---|---|---|---|---|---|
| | Time of Visit | -0.025 | 0.072 | 0.126 | 0.723 |
| | Active Activity | -0.321 | 0.125 | 6.604 | 0.010* |
| | Passive Activity | -0.321 | 0.125 | 6.604 | 0.010* |

Note: * indicates significance at α = 0.05 (p < 0.05)

Results of the ordinal and logistic regressions between facility variables and park usage are shown in Table 6. The findings show a significant negative correlation between perceptions of their facilities and their visit duration (β = −0.053, p = 0.038). Visitors who have made short visits may characterize the facilities as adequate but do not spend much time in them. On the other hand, long-stay visitors are the ones exposed most to facility limitations and therefore evaluate them more critically.

Perceived facilities significantly positively affect visit frequency (β = 0.056, p = 0.025). This means that better facilities generate users to visit more often. These results are in accordance with that of Kefale et al. (2023) [14], which described that the availability of physical elements including walking paths and natural features increases the frequency of visitation.

The comfort factor is not related to duration, frequency, time of visit, or type of activity. A few factors may explain the persistently high Likert scores for various factors (Table 2), including adequate lighting (4.39), clean air (4.40), quiet atmosphere (4.33), and low crowding (4.08). Since comfort perceived is already good and homogeneous, no variations are likely to have such strong behavioral effects.

Perceived safety is found to have a significant inverse relation to both active and passive behaviors (β = −0.321, p = 0.010). The more strenuous the activity, the lower the feeling of safety. This is counterintuitive since active users like joggers or children at play might be more vulnerable to environmental hazards. At the same time, users doing light or passive activity tend to feel safe without evaluating threats. This pattern agrees with some previous studies where safety was a key property of green space quality and even so, activity intensity does not always reflect safety perception [14].

## 4. Conclusion

The results of this study that assessed the visitor's preferences and their usage patterns at Cadika Pramuka Park provide direct evidence that socio-demographic variables, accessibility, and perceptions of the facilities affect how users use the park. Demographic variables such as age, occupation, education, income and marital status are mainly associated with visiting time duration, preferred visiting hours and the balance between active and passive activities, respectively. Gender and ethnicity, however, have no major effect, making them not influence the park-use behavior in the sample.

Accessibility plays a decisive role. Long travel times interfere with the accessibility feeling and therefore reduce the frequency of visits, thus confirming that proximity remains an influential factor in park engagement [14]. Active visitors prefer simpler, more physically engaging forms of transport, and perceptions of accessibility provide a boost in flexible times for being able to visit. The perceptions in facilities also impact behavior [12]. Short-stay visitors seem to rate facilities positively, while long-stay guests react more negatively to facility constraints. More efficient facilities enhance visitor frequency, which supports the idea that park infrastructure affects usage.

Altogether, the findings underscored the fact that Cadika Pramuka Park is a multi-use green open space and it needs to be adjusted to address the requirements of multiple users. Management should therefore prioritize equitable access, sustainment and development of infrastructure that serves more of a dual purpose for active as well as passive use, and user-focused designs that adapt to the unique demographic needs of users. With the three dimensions are (a) to increase quantity and quality of physical aspects, (b) to maximise functional

benefits, and (c) to improve governance via better institutional coordination and enhanced public awareness [4].  Building on a more inclusive, sustainable and socially responsive urban green space, Cadika Pramuka Park needs to strengthen its post-revitalization management, safety and comfort.

## 5. Acknowledgements

## 6. Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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