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Cover Page Footnote

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Women's Perspectives on Public Transportation in Jakarta, Indonesia – Reliability and Service Quality Insights

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ABSTRACT

The provision of public transport is of utmost importance in effectively addressing the needs of women residing in developing nations. Nevertheless, it has been noted that the issue of gender-sensitive public transport lacks substantial consideration in the majority of developing nations worldwide. Universal designs are recognised internationally for their rational and economically efficient characteristics, as they accommodate the needs and preferences of not only women but also other individuals who require or desire access to public transportation. Within the realm of public transport, a controversial topic has emerged regarding the introduction of specialised or unique services. The present debate has drawn attention to a number of potential negative effects, such as gender-related stereotypes, insufficient service delivery during times of peak demand, and higher expenses as a result of the requirement for facilities and services that are gender-specific. The primary objective of this study is to investigate the viewpoints of female residents living in Jakarta, Indonesia regarding the reliability of public transport and the quality of its services. In conclusion, our research findings suggest that women living in Jakarta demonstrate an ability to adjust to the available infrastructure, regardless of their social standing and economic conditions, even in cases where these facilities are not specifically designed for women. Nevertheless, it is imperative to acknowledge that services tailored explicitly to address the distinct requirements of women are not only well-received but also enhance their mobility when compared to services that do not integrate these provisions.

Keywords: Jakarta; Mobility; Public Transportation; Women.

1. Introduction

Jakarta is widely acknowledged as one of the most densely populated cities on a global scale. The daily mobility of individuals, both within and outside urban areas, is considerable due to the substantial population size. The existence of robust infrastructure and a proficient transport system are potentially pivotal elements in facilitating smooth mobility both within and outside the urban core. This pertains to the mobility of women as travelers both within and beyond the urban core, employing various modes of transportation such as motorcycles, Bajaj (a local well-known three-wheeled motorcycles), motorcars, public buses, and railway transit systems. A smooth movement in Jakarta

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can be defined by the locals as an uninterrupted transition between stations, characterised by effective management of directions, spatial arrangements, accessibility, comfort, and safety precautions. Women residing in Jakarta exhibit travel behaviour and travel patterns that differ from those of their men counterparts. The holistic achievement of women's rights encompasses the privilege of mobility and the liberty to engage in movement. The factors mentioned above are intrinsically linked to women's capacity to utilise public transportation and gain entry to public spaces. The inclusion of women's viewpoints in this research and personal encounters by the researcher is essential for attaining a comprehensive comprehension of the various barriers faced by women concerning transportation accessibility and quality. Furthermore, it is imperative to develop effective strategies to address these challenges. The United Nations (2008) asserts that the provision of public transport enhances the productivity of women and exerts a direct influence on the attainment of gender equality. Transportation plays a significant role in enhancing the quality of life and personal well-being by facilitating access to vital services such as healthcare, education, and employment. Additionally, it fosters the efficient exchange of information, leading to increased productivity, economic growth, and the promotion of social cohesion (United Nations, 2008).

Women residing in low and middle-income countries (LMICs) encounter various forms of deprivation across multiple dimensions. One of the challenges they encounter is the presence of socio-cultural norms that restrict their ability to access facilities and opportunities on an equal basis. Individuals in this particular group face constraints in terms of resource availability, such as limited access to transportation. Additionally, they experience restricted rights, limited mobility, and a diminished ability to actively participate in decision-making processes. As a result, there exists a significant disparity between the rates of labour market participation among women compared to men. In a comprehensive analysis encompassing developed, emerging, and developing nations, it has been observed that women tend to receive an average remuneration lower than that of men. This disparity can primarily be attributed to the fact that women are disproportionately concentrated in sectors and occupations characterised by a higher prevalence of low wages. The correlation between the mobility of women in Jakarta and their access to transportation has significant implications for their economic engagement, overall welfare, and empowerment.

Transportation is a leading indicator of a city’s success. It is supposed to address various concerns, particularly in metropolitan regions where population density is increasing, with limited space and congested roads being major common issues. Hence, public transportation is an integral component of urban mobility with the goal to provide an individual’s fundamental transportation needs (Luo et al., 2019). The accessibility of existing public transport has certainly had a substantial influence on the individual’s transportation mode selection, particularly considering the number of private automobiles (Hasan et al., 2022). According to Sitanggang and Saribanon (2018), most people prefer personal

vehicle over public transportation for commuting, which causes traffic congestion, particularly in the Jakarta region. In order to decrease the number of private vehicles entering the city, the DKI Jakarta administration has established the odd-even regulation scheme, which is implemented on specific routes and time. Furthermore, according to the findings of research done by Hasibuan and Mulyani (2022), the availability of a dependable public transport system is the biggest concern among individuals, not how far the public transit location from their residential or workplace areas (Hasibuan & Mulyani, 2022). For instance, having a highly reliable public transportation such as the Trans-Jakarta bus as one of the alternative mode in connecting first and last miles, will directly increase the number of ridership and attract more public transport users, which may hold a greater possibility for achieving a sustainable transport system rather than creating a new transport system. Moreover, our survey also reveals that having a cheap 'travel cost' is one of the most important aspects when it comes to public transportation usage.

2. Literature Review

A greater grasp on the factors that influence an individual's travel behavior may disclose variations in preferences and attitudes, provide insights into existing travel patterns, improve transportation planning, prepare for future requirements for infrastructure and services, and aid in the design and implementation of sustainable and inclusive transportation policies particularly to enhance gender equity. External variables such as urban design, land use and socio-demographic characteristics, are all significant indicators for the selection of transport mode choice (Cervero, 2002; Giuliano, 2003; Handy et al., 2005). Gender, household composition, income, and private automobile ownership are the most important socio-demographic determinants impacting travel behavior (Best & Lanzendorf, 2005). Gender is one of the most critical characteristics in the transport mode selection (Bhat & Srinivasan, 2005). The disparities in travel behavior between men and women are mostly related to the variety of activities that women encounter more frequently than men. Because of the gendered division of labor in families, women frequently have many jobs and activities, such as employment, domestic duties, and caregiving obligations. Women have extremely distinct preferences and restrictions from men since they have particular travel attributes in terms of mode choice, travel time, trip purpose, trip chain, and travel distance. Women, for example, have been shown to make fewer commuting trips to work and more trips for domestic tasks including shopping and childcare duties (Sayer, 2016). In fact, the presence of dependent children in a household also could affect women’s travel patterns more than men’s (McGuckin & Nakamoto, 2005). Today’s reality, women’s travel behavior has been changing over time and in diverse directions between developed and developing cities. According to

Wei-Shiuen and Ashley (2018), women prefer alternative forms of transportation such as trains, buses, taxis and walking or bicycling as compared to private vehicles. It also reveals that men travel by car or motorbike while women travel by bus or non-motorized mode. These findings are consistent with the research indicating that women favor more flexible transport options (Bray & Holyoak, 2015). Despite the fact that women utilize public transport more than men, public transport in most developing cities is still risky or seen to be unsafe. The absence of safety is the most significant impediment to women using public transport. Recent research in Hanoi, Jakarta, and Kuala Lumpur has found that women are far more likely than men to use public transport (Bray & Holyoak, 2015; Tjeendra et al., 2010; Nurdden et al., 2007). This research also shows that in Hanoi and Jakarta, women emphasized safety as a basic requirement for using public transport (Bray & Holyoak 2015; Tjeendra et al., 2010). Additionally, nearly 90% of women rated the existing public transport safety as bad or very poor in Jakarta, although only 35% of men agreed (Turner, 2013). Meanwhile, Herrera (2007) observed that sexual harassment of women on the streets, buses, and trains is a common problem. In Manila and Jakarta, incidences like sexual harassment experienced by women when they are using public transportation are viewed as an issue related to overcrowding and are classified as a result of an excessive number of passengers. In fact, interviews with transport experts in Manila and Jakarta have demonstrated that lack of understanding on social and gender effects to transport regulations has impacted individuals to have sexist gender stereotypes. As a result of such prejudice, women prefer to travel at specific times of day and frequently with a partner to secure their own safety. Therefore, some variables such as housing, selection of employment location, and the importance of time for non-work related trips and activities, may be gender-related when choosing transport mode and not specific to city type, geographical area, or financial stability level (Wei-Shiuen & Ashley, 2018).

The provision of transport services is a fundamental aspect of ensuring equal treatment and preventing discrimination. At a broad and abstract level, it can be observed that women tend to have lower levels of mobility compared to men. This disparity in mobility can be interpreted as indicative of inequality and limited access to various opportunities for women (Hanson, 2010). The absence of adequate access to fundamental opportunities has negative consequences for the social, economic, physical, and psychological well-being of women (Kerzhner et al., 2018; Miller, 2018). An essential factor in mitigating social exclusion is ensuring equitable access to opportunities. An initial measure in this endeavor involves the

elimination of impediments to mobility, which is defined as the level of ease associated with the act of moving. The prospects for numerous women residing in regions marked by limited physical accessibility and insufficient transportation will continue to be unfavorable until this issue is addressed. The apprehensions and anxieties regarding personal security and safety exert a direct influence on the mobility and travel patterns of women (Hanson, 2010; Stark & Meschik, 2018). Behavioral adaptations can manifest in various ways, such as individuals opting to avoid specific routes, stops, destinations, or modes of travel. Additionally, individuals may choose to carry protective measures, such as repellents or keys, as a means of safeguarding themselves. Altering travel schedules to different times and opting for more expensive alternatives in response to perceived threats are also observed behavioral changes. In extreme cases, individuals may even choose to forgo trips altogether (Hanson, 2010; Kunieda & Gauthier, 2007; Stark & Meschik, 2018). According to a study conducted in Brazil, it was observed that over 50% of women alter their walking route in areas where only men are present (Souza, Bittencourt, & Taco, 2018). According to a study conducted in urban areas of Penang, Malaysia, involving 300 respondents, women expressed feelings of insecurity when using public transport in both daytime and nighttime, despite a decrease in the reported crime rates (Soltani et al., 2012).

In summary, there exist two distinct categories of factors that exert influence upon women's decision-making process regarding the utilization of public transportation. Based on an extensive review of relevant literature and prior research, it has been determined that internal factors play a significant role in influencing women's decision-making process regarding their preferred mode of choice. The factors that contribute to women's economic and financial status include their feelings and comfort, their perceptions and knowledge regarding modes of choice, their ability to drive, general information, health, and the significant role of children as dependents for married women. It is categorized as internal factors because it is easily control by the user (women) itself instead of the external factors which were more uncontrol by the users. Internal factors very much explain on the ability of women to decide and control by themselves. However, external factors are beyond the control of individuals of all genders. In the context of external factors, the determination of fare prices, travel duration, ticketing systems, and the application of mode choice are influenced by Jakarta governmental policies and transportation providers. Furthermore, users are unable to exert control over weather patterns, company support, and road conditions, necessitating their acceptance of these factors as they are. The user lacks the ability to ascertain whether their chosen mode of

transportation will encounter traffic congestion, and whether the efficiency of that mode will be impacted on a given day. Therefore, taking into account both external and internal factors, women were compelled to select their mode of transportation based on the most favorable choices accessible and make a decision.

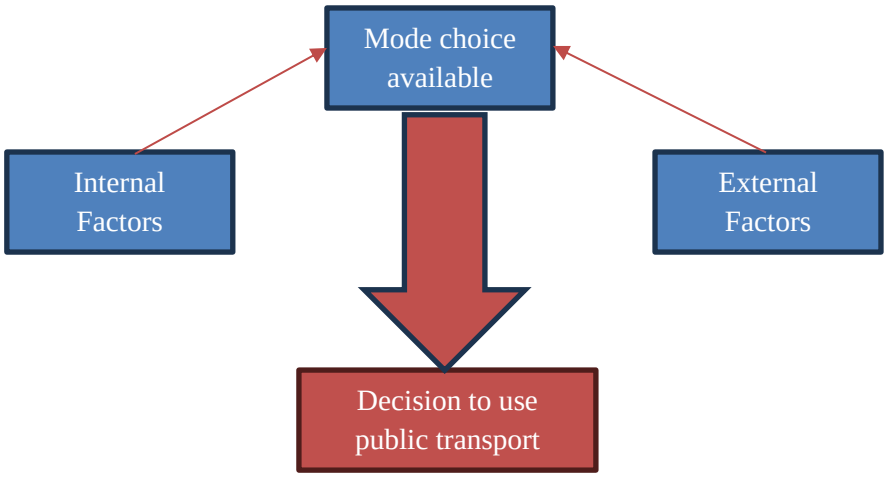

Figure 1. Figure shows a conceptual diagram on the influence of internal and external factors on mode choice available that affects decision to use public transportation.

3. Research Methodology

The data collection was carried out on May 9, 2023, through a site visit that lasted for one day in Jakarta, Indonesia. The research specifically focused on women who rely on public transport as their primary mode of commuting, particularly for their daily trips to their workplaces. The present study employs a quantitative method, utilizing purposive sampling as a research approach. This approach specifically focuses on women who utilize public transportation as the participants. Before commencing the data collection process, the researcher has identified two main focal points concerning urban and suburban environments. The objective of this research is to acquire a thorough comprehension of the demographic attributes of women who make use of public transport in diverse settings, with a particular emphasis on their age, monthly income, and occupational status. Furthermore, the main aim of this research endeavor is to acquire a comprehensive understanding of the travel behaviors demonstrated by female tourists who utilize public transportation in Jakarta, Indonesia. The selected main points are Manggarai railway station, located in the urban areas while Lebak Bulus mass rapid transit (MRT) station is located in the suburban areas. A set of questionnaire surveys (in Indonesian language) has been prepared beforehand and during the

data collection day, the survey was distributed purposively to any women who are using the public transport and available to take part in the survey for that particular time. A total of 36 respondents able to participate in the survey for both stations and they were informed of the research objectives and participation were entirely voluntarily. A token of appreciation for their participation was provided after the full set of surveys had been completed. However, while conducting the data collection, one of the limitations encountered by the researcher is time constraint. As it was conducted at the surrounding area of the public transport stations, hence, the respondents are restricted in terms of time because they have to adjust their time based on the specific public transport time schedule. Therefore, only those women who are time-free and available are willing to participate in the study. Lastly, all of the data was gathered and imported into the SPSS software analysis. The data were coded according to a list of questions, then, the data were analyzed and were discussed in the findings section.

The present study utilizes descriptive statistics as a means of summarizing a provided data set, which may encompass either a comprehensive representation of the entire population or a subset of the population known as a sample. Descriptive analysis holds significant importance in the process of data exploration as it entails the summarization and description of the fundamental characteristics of a given dataset. This analysis offers valuable insights into the frequency distribution, measures of central tendency, measures of dispersion, and methods for identifying position within the data. This study is defined as exploratory research, which can be implemented through a range of methodologies such as interviews, focus groups, surveys, and observations. The rationale behind choosing to study women's perception of public transport in Jakarta is supported by its inherent range, which enables the investigation of a wide range of research inquiries. Kawgan-Kagan (2020) uses descriptive analysis to understand gender disparities in sustainable urban mobility, specifically focusing on the increased utilization of private vehicles by women with children and the reluctance of women to adopt new mobility services. The improvement of living conditions in urban areas, specifically in terms of reducing urban space scarcity, local and global emissions, and noise exposure, can only be achieved when planning processes take into account gender differences. While same method was used by Malik et. al (2020) to see the insights of transportation agencies and practitioners in seeking to integrate gender-sensitive strategies into future Bus Rapid Transit (BRT) systems, particularly in developing nations in Lahore.

4. Results

The survey included a sample size of 36 participants who took part in the evaluation of both Manggarai railway station and MRT Lebak Bulus station in Jakarta, Indonesia. This section presents the findings pertaining to the respondents' general profile, daily travel patterns, and the internal and external factors influencing their decision to utilize public transportation as their primary commuting mode as soon in Table 1. These findings will be further elaborated and discussed.

Table 1. Respondent's Profile

Subject	Items	Frequency	Percent	Valid Percent	Cumulative Percent
Respondent's Age	18 to 35 years old	22	61.1	61.1	61.1
	36 to 55 years old	9	25.0	25.0	86.1
	Above than 55 years old	5	13.9	13.9	100.0
Respondent's Marital Status	Married	14	38.9	38.9	38.9
	Single	20	55.6	55.6	94.4
	Divorced	2	5.6	5.6	100.0
Respondent's Educational Status	Informal	1	2.8	2.8	2.8
	Primary	2	5.6	5.6	8.3
	Secondary	10	27.8	27.8	36.1
	Diploma	3	8.3	8.3	44.4
	Bachelor Degree	13	36.1	36.1	80.6
	Master Degree	3	8.3	8.3	88.9
	Doctoral Degree	4	11.1	11.1	100.0
Respondent's Occupational Type	Government	9	25.0	25.0	25.0
	Private	6	16.7	16.7	41.7
	Self-employed	4	11.1	11.1	52.8
	Unemployed	17	47.2	47.2	100.0
Respondent's Occupational Status	Full-time	16	44.4	44.4	44.4
	Freelance	3	8.3	8.3	52.8
	Not Available	17	47.2	47.2	100.0
Respondent's Working Hour	Fixed	14	38.9	38.9	38.9
	Shift	2	5.6	5.6	44.4
	Flexible	3	8.3	8.3	52.8
	Not Available	17	47.2	47.2	100.0
Respondent's Monthly Income	Below than Rp 1,500,000	12	33.3	33.3	33.3
	Rp 1,500,000 to Rp 5,000,000	12	33.3	33.3	66.7
	Above than Rp 5,000,000	12	33.3	33.3	100.0
Transportation Ownership	Car	10	24.4	24.4	24.4
	Motorcycle	15	36.6	36.6	61.0
	Not Available	16	39.0	39.0	100.0
Daily Transport Mode to the Workplace	Car	10	14.9	14.9	14.9
	Motorcycle	9	13.4	13.4	28.3
	Online Transportation (Grab)	15	22.4	22.4	50.7
		7	10.5	10.5	61.2

Subject	Items	Frequency	Percent	Valid Percent	Cumulative Percent
	Bus	1	1.5	1.5	62.7
	Taxi	21	31.3	31.3	94.0
	Public Transport (LRT/MRT)	4	6.0	6.0	100.0
	Others				
Respondents Have Children	No	22	61.1	61.1	61.1
	Yes	14	38.9	38.9	100.0
Children's Transport Mode to School	Private Transport	7	18.9	18.9	18.9
	Bus	4	10.8	10.8	29.7
	Public Transport	1	2.7	2.7	32.4
	Walking	2	5.4	5.4	37.8
	Not Applicable	23	62.2	62.2	100.0
Distribution of Childcare Duties	Wife	7	19.4	19.4	19.4
	Children Independent Travel	6	16.7	16.7	36.1
	Not Available	22	61.1	61.1	97.2
	Others (Boarding School)	1	2.8	2.8	100.0

Based on an analysis of the respondents' profiles, it is evident that a majority of the participants fall within the age range of 18 to 35 years (61.1%). Additionally, a significant proportion of the respondents are unmarried (55.6%) and possess post-secondary educational qualifications. The majority of respondents in this study are employed on a full-time basis in either the public or private sector. Consequently, their working hours are typically determined by the operational hours of their respective companies, which commonly adhere to a standard 9 to 5 schedule. Furthermore, it is evident that approximately 61% of the participants possess private means of transportation, namely cars or motorcycles. However, the majority of respondents, accounting for approximately 65.7%, rely on public transportation options such as buses, taxis, online transportation services, and LRT systems for their daily commute to work. In the context of working mothers with dependent children, it is evident that there is a lack of significant variation in the allocation of childcare responsibilities concerning children's autonomous travel and transportation mode to school. However, the facilities offered at the train stations were adequate and properly upheld. Individuals, including women, were observed engaging in the act of occupying various spaces, wherein they were seated and awaiting without experiencing apprehension. This can be attributed to the effective design of the environment, which featured a significant amount of open spaces, thereby eliminating secluded areas that could potentially facilitate criminal activities as shown in Figure 2. Furthermore, the designated areas were patrolled by police officers or security personnel to ensure safety and security. For tourists, navigating unfamiliar

surroundings can be challenging due to the scarcity of directional signage and language barriers. Nevertheless, the local population is known for their amiable nature and approachability.

Figure 2. The train station's facilities are effectively maintained and utilized by a wide range of people.

5. Discussion

Based on the data and observations, it can be inferred that a significant proportion of female users do not have children. However, it is also evident that women with children utilize train services for long-distance travel, often accompanied by family members or friends. Based on the observation, it can be inferred that certain facilities, such as the lift and adequate pedestrian crossing infrastructure, were found to be inadequate and undergoing ongoing improvements due to the ongoing construction of train station upgrades.

Table 2. Daily Travel Patterns (from home to workplace and from workplace to home)

Subject	**Travel Trip from Home to Workplace**		**Travel Trip from Workplace to Home**	
Number of Travel Trips (in Percent)				
No stop	8.3		44.4	
1 stop	55.6		25.0	
2 stops	19.4		25.0	
3 stops	16.7		5.6	
Travel Trips (Location)				
	Frequency	Percent	Frequency	Percent
Childcare Duties	2	4.0	1	2.9
Food	6	12.0	6	17.6
ATM Machine	3	6.0	5	14.7
Shopping	8	16.0	7	20.6
Groceries	3	6.0	4	11.8
Meetings	6	12.0	0	0

Health-related (Gym)	0	0	0	0
Petrol Station	4	8.0	2	5.9
Others	18	36.0	9	26.5
Total	50	100.0	34	100.0

According to the data presented in Table 2 and Chart 1, discernible disparities exist in the quantity of travel journeys undertaken prior to work (home to workplace) and subsequent to work (workplace to home). Based on the data collected, it can be inferred that a majority of the participants reported making at least one stop prior to reaching their workplace. However, following their work hours, a significant proportion of the respondents indicated a lack of stops and proceeded directly to their residences.

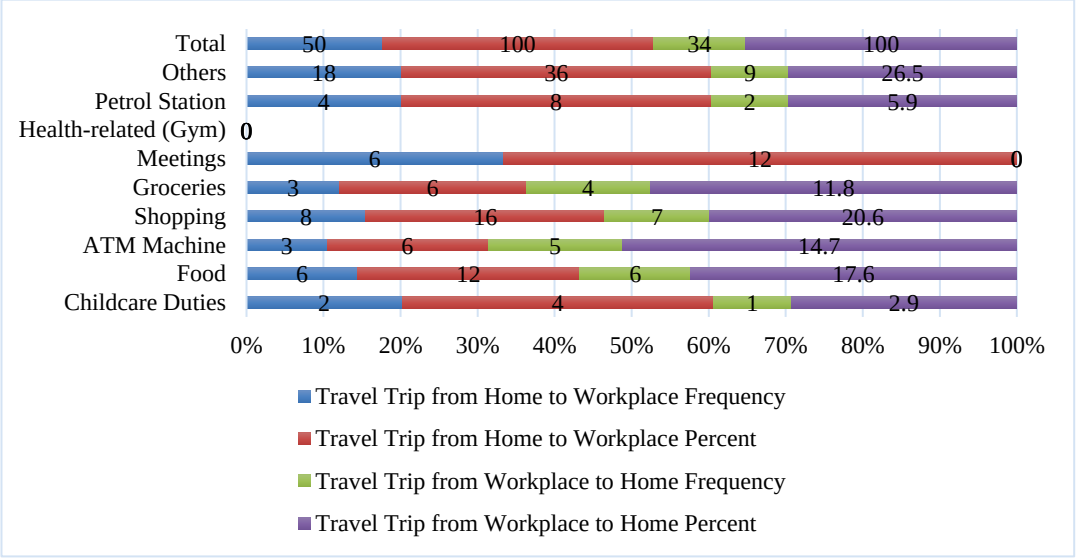

Chart 1. Chart showing Daily Travel Patterns (from home to workplace and from workplace to home)

This observation suggests that individuals typically opt to return home and engage in restful activities following extended periods of work. In addition to this, it has been reported that a significant number of respondents frequently visited locations other than their workplace, indicating that they often made stops at different places or utilized transit stations before reaching their final destination. Furthermore, it was observed that shopping activities ranked as the second most common activity after these aforementioned visits, during post-work hours. A fascinating feature of Jakarta is the prevalence of numerous informal businesses situated along the city's roads and outside its stations. This phenomenon, which may be deemed unlawful in other nations due to concerns related to safety, sanitation, and congestion, adds to the unique character of Jakarta. The provision of informal business

support is necessary to cater to the needs of women who require shopping assistance after their work hours, particularly as they commute from the station to their residences. The provision of multiple activity opportunities while using public transportation may serve as an incentive for women to utilize these services as seen in Figure 3.

Figure 3. The presence of informal food businesses in close proximity to transportation stations has been observed to have a positive impact on the utilization of public transportation by women, thereby enhancing the liveliness and attractiveness of the station environment.

Table 3. Travel Distance and Travel Time (from home to workplace)

Subject	Items	Frequency	Percent	Valid Percent	Cumulative Percent
Travel Distance (km)	0 – 5km	7	19.4	19.4	19.4
	6 – 10km	10	27.8	27.8	47.2
	11 – 15km	7	19.4	19.4	66.6
	16 – 20km	6	16.7	16.7	83.3
	21 – 25km	2	5.6	5.6	88.9
	More than 30km	4	11.1	11.1	100.0
Travel Time (minutes)	0 – 10 minutes	3	8.3	8.3	8.3
	11 – 20 minutes	10	27.8	27.8	36.1
	21 – 30 minutes	8	22.2	22.2	58.3
	31 – 40 minutes	2	5.6	5.6	63.9
	41 – 50 minutes	1	2.8	2.8	66.7
	51 – 60 minutes	4	11.1	11.1	77.8
	More than 60 minutes	8	22.2	22.2	100.0

In addition to this, the station also accommodated formal businesses such as fast-food restaurants, which proved advantageous to both male and female users. Based on the data presented in the travel time and distance table, it has been determined that the duration and distance of the commute from one's residence to the workplace are relatively short, rendering them easily accessible via public transport. It can be postulated that the utilization of public transportation may lead to a reduction in transportation costs and travel duration in comparison to private transportation, particularly in situations characterized by high demand and traffic congestion, such as peak hours.

5.1. Internal Factors Determine the Respondent's Decision to Use Public Transportation

The data presented in the table indicates that the internal factors with the highest reported mean values are feeling comfort, economy (financial factor), and health factor (specifically, the ability to walk and use public transportation). The highest mean score signifies that the respondent expresses a greater level of agreement towards each of the statements. Therefore, it can be inferred that the respondents' decision to utilise public transport is primarily influenced by internal factors. These factors include a sense of comfort while using public transport and financial considerations, particularly among individuals aged 18 to 35. This age group likely consists of recent university graduates who are still establishing themselves in the workforce, resulting in a relatively unstable monthly income. Additionally, the majority of respondents in based on the available evidence, it can be inferred that there exists a positive correlation between age and the inclination towards engaging in physical activity, particularly walking. Specifically, it can be posited that individuals in younger age groups exhibit a greater propensity for adopting an active lifestyle. Conversely, the lowest mean is observed in relation to children's needs and the impact of external influences. The mean score reported exhibits a significant association with the demographic characteristics of the respondents, particularly their marital status and parental status. Specifically, the lowest mean score is observed among individuals who are predominantly single and without children. Therefore, it can be concluded that the decision to utilise public transportation as a daily commuting method is not significantly impacted by factors such as the needs of children or the influence of individuals such as husbands.

Table 4. Descriptive Analysis for Internal Factors

Subject	Mean	Median	Mode	Standard Deviation	Range
Economy (financial factor)	3.53	4.00	4	0.654	2
Feeling comfort	3.78	4.00	4	0.422	1
Perception/Knowledge	3.33	3.50	4	0.793	3
Ability to drive	2.83	3.00	3	0.971	3
General information on public transport	3.42	3.50	4	0.649	2
Influence from others (husband not allows)	2.86	3.00	4	1.073	3
Health factor	3.50	4.00	4	0.737	3
Multiple activities and travel trips	3.11	3.00	3	0.785	2
Children needs (send them to school)	2.81	3.00	3	0.920	3
Experience	3.44	4.00	4	0.652	2

5.2. External Factors Determine the Respondent's Decision to Use Public Transportation

Table 5 presents the descriptive analysis of the external factors influencing the respondents' decision to utilise public transportation. Based on the average scores, the factors with the highest reported means are traffic congestion, weather conditions, road conditions, and travel distance. The influence of traffic congestion on individuals' choice to utilise public transportation is a significant factor, as indicated by Sitanggang and Saribanon's (2018) research. The primary causes of traffic congestion in the Jakarta region predominantly stem from the increased influx of automobiles into the city. Hence, a significant proportion of the participants opted for utilising public transportation as a means to mitigate traffic congestion and minimise travel duration. Furthermore, the factor of travel distance has served as the driving force behind the respondent's decision, as indicated in Table 3. It is noteworthy that the majority of respondents reported a travel distance of less than 15km, which typically translates to a commute time of approximately 11 to 30 minutes. Therefore, it can be inferred that despite the need to depart from their residences at an early hour to ensure timely boarding of the LRT, the duration of the commute remains within an acceptable range. In contrast, the categories with the lowest mean scores are personal trust in private transport and

company support. It can be inferred that while individuals do possess private transportation, their reliance on such means is not substantial due to their prioritisation of other significant factors, such as road conditions and traffic congestion.

Table 5. Descriptive Analysis for External Factors

Subject	Mean	Median	Mode	Standard Deviation	Range
Fees	3.47	4.00	4	0.736	3
Travel time	3.42	4.00	4	0.770	3
Ticket integration	3.03	3.00	3	0.878	3
Ticket discount	3.11	3.00	4	0.979	3
Public transport apps	3.08	3.00	4	1.052	3
Weather	3.53	4.00	4	0.696	3
Company support	2.83	3.00	3	0.910	3
Road condition and travel distance	3.53	4.00	4	0.736	3
Lighting	3.06	3.00	3	0.860	3
Safety and security	3.39	4.00	4	0.838	3
Personal trust on private transport	2.78	3.00	2	0.989	3
Traffic congestion	3.69	4.00	4	0.525	3
Public transport condition (quality and efficiency)	3.47	4.00	4	0.845	3

5.3. Relationship between Internal and External Factors on the Selection of Transport Modes

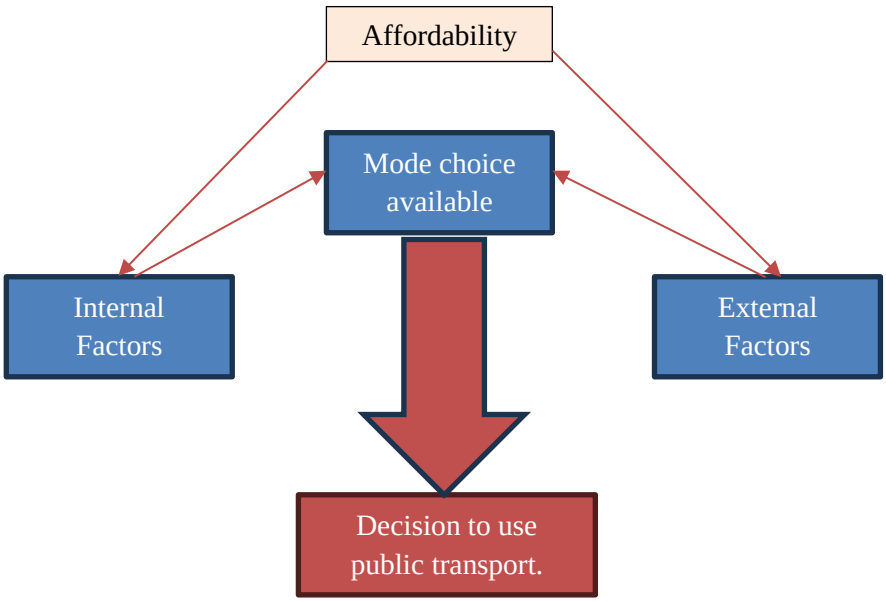

Figure 4. A schematic representation based on the data analysis from fieldwork on the diverse impact of internal and external factors on the selection of transport modes, which is contingent upon the level of affordability.

The selection of transport modes is a multifaceted decision influenced by the internal and external factors, with affordability serving as a higher determinant. Internal factors which have been discussed include personal income, preferences, and physical ability. Higher income levels typically expand the range of available transport options, allowing individuals to choose more expensive and convenient modes such as private vehicles or ride-sharing services. Conversely, lower income levels often constrain choices to more affordable options like public transit or cycling. Personal preferences, such as the desire for comfort or speed, also play a role but are moderated by what individuals can afford. Additionally, physical ability impacts the feasibility of certain modes; for instance, individuals with mobility issues may find walking or cycling impractical regardless of cost.

Whilst, external factors including availability and cost of transport modes and infrastructure quality further complicate transport mode selection. The presence of a well-developed public transit system can provide a viable and affordable alternative to private car ownership, particularly in urban areas. The cost associated with each mode, encompassing fuel, maintenance, and fares, directly influences affordability. High costs can deter the use of private vehicles, pushing individuals towards more economical options. Indeed, infrastructure quality, such as the availability of bike lanes and well-maintained roads, can make certain modes more attractive and accessible. Hence, it can be reported that affordability acts as a central axis around which these internal and external factors interact, dynamically influencing the overall transport mode selection. As affordability shifts due to changes in personal income and costs, so too do the preferences and practicalities of different transport modes. This intricate interplay highlights the importance of a holistic approach in transport planning and policy-making to ensure equitable access to diverse and sustainable transport options.

6. Conclusion

In Jakarta, women can generally depend on public transportation as a means of transportation between two locations, denoted as point A and point B. It is evident that the primary factors influencing the utilization of public transportation in Jakarta are not ultimately due to accessibility, safety, or facilities, but rather the cost and affordability associated with their use. The public transport system in Jakarta possesses intriguing attributes such as the presence of informal business activities, convenient accessibility, and its close proximity to

residential areas, thereby facilitating ease of pedestrian access to the stations. Therefore, it can be inferred that a significant proportion of individuals utilizing public transport belong to the lower socio-economic strata, as opposed to those in higher income brackets. It is noteworthy that there is an absence of social stigma associated with the condition of the facilities utilized by individuals with lower incomes at the stations, as these facilities are perceived to be both comfortable and secure. This is a practice that ought to be replicated by other developing nations. It appears that the higher income individuals in Jakarta to utilize public transportation is not significantly influenced by external factors such as traffic congestion and weather conditions. This is likely due to their ability to afford alternative commuting options, such as travelling to work outside of peak hours or having flexible work schedules.

In contrast, the blue-collar or lower income group tends to adhere more strictly to fixed working hours, making them more reliant on public transportation. Hence, despite employing purposive sampling techniques, researchers encountered significant challenges in obtaining respondents from the higher income bracket, despite our efforts to visit MRT stations in close proximity to areas inhabited by individuals with higher incomes. The study findings indicate that internal factors, such as comfort and economy, exerted a greater influence compared to external factors. Consequently, when considering both internal and external factors, it can be inferred that female respondents predominantly belong to the lower- and middle-income brackets and express a preference for a more affordable mode of transportation within Jakarta. Nonetheless, the issue of women's transit safety cannot be effectively addressed through a singular initiative or solution. In order to address the issue at hand, it is imperative to adopt comprehensive and interdisciplinary methodologies and tactics across different levels, encompassing short-term, medium-term, and long-term perspectives. The promotion of women's safety when using public transportation necessitates a collaborative effort, involving the shared responsibility of the governments and various community stakeholders. In the context of urban planning policy development, the utilization of an intersectional framework is of utmost importance in comprehending the potential effects of discrimination on access. The integration of gender into transport systems in Jakarta necessitates the presence of political will and a forward-thinking vision. The provision of transport systems that possess qualities such as accessibility, efficiency, reliability, safety, and affordability yields benefit not only for women, but also for commuters and users in general. Physical and environmental design (CPTED) measures that increase surveillance, such as CCTV in buses,

trains, and train and bus terminals and stops, as well as emergency buttons or telephones, and improve visibility through lighting, particularly in low-light areas of public transportation terminals and parking lots, are examples of changes to infrastructure that can be made to prevent crime. The optimal approach for enhancing safety and security at strategic locations necessitates engaging in consultations with commuters and implementing monitoring and surveillance measures in identified vulnerable areas. Public transport service operators have the ability to mitigate overcrowding by employing foot traffic analysis and implementing traffic control protocols. Additionally, they can enhance surveillance services by offering larger coaches or buses. This approach has been supported by various studies.

Ideally, the incorporation of interactive spaces within public transport systems should strive to alleviate sentiments of seclusion and susceptibility among female passengers and other individuals utilizing the service. The aforementioned objective can be accomplished by employing various approaches, including the integration of mixed land use, deliberate landscaping practices, and efficient lighting techniques. In accordance with the urban planning principle expounded by Jane Jacobs, the act of having watchful individuals who actively observe public spaces, often known as the "eyes on the street" has been recognized as a viable strategy for deterring criminal behavior. One plausible strategy to attain this goal entails the incorporation of commercial enterprises and amenities within public transportation hubs, encompassing establishments such as grocery stores, convenience stores, and childcare facilities.

The presence of small informal retail establishments along the roads in the vicinity of transit stations in Jakarta is a common observation. The researcher identified several advantages that serve as significant factors in promoting consistent use of public transport among women. Railway stations in Tokyo provide a diverse range of amenities, such as day care services, and are effectively linked to multiple convenience stores that offer essential commodities. Furthermore, these stations are characterized by a wide range of commercial establishments situated on their platforms. These establishments have a specific focus on individuals who are constrained by time, with a particular emphasis on women who integrate their errands with other responsibilities. This objective can be achieved by converting a city that emphasizes car dependency into one that advocates for the adoption of public transport, walking, and cycling, thereby increasing the prevalence of pedestrians on the streets. To provide an example, Seoul experienced a notable urban metamorphosis, shifting its focus from automobile-centric

infrastructure to prioritizing public transport, pedestrian-friendly spaces, and cycling options. The removal of a 6 km elevated motorway located in the central region of the city was subsequently accompanied by the creation of a rehabilitated river, pathways for pedestrians, and publicly accessible spaces. A selection of bridges that cross the river were specifically prioritized to cater the needs of pedestrians and cyclists. Several heavily congested streets underwent modifications through the implementation of exclusive busway corridors. These corridors, spanning over a distance of 80 kilometers, were designed with the objective of improving transit services by facilitating faster travel.

Women play a pivotal role in the construction of societies that are characterized by greater equity, enhanced safety, and increased sustainability. The experiences and perspectives of individuals contribute valuable insights to the development of policies, design, and planning strategies, by providing a direct connection to the realities on the ground. Enhancing comprehension of women's needs in Jakarta and concerns holds the potential to enhance service provision not only for women but also for all individuals utilizing public transport. In Jakarta, the foremost challenge confronting public transport pertains to safety and security. By effectively addressing these concerns, the overall welfare of all transport users can be significantly improved. The present study has brought attention to the prominent obstacles faced by women in Jakarta when accessing public transport services, namely gender-based violence concerns encompassing sexual assault, harassment, and child trafficking. The involvement of stakeholders in the provision of comprehensive public transportation services is hindered by bureaucratic obstacles. In order to effectively address security concerns and promote a sense of safety, it is imperative for public transport strategies to adopt a comprehensive approach. This entails implementing physical design measures and employing various strategies that aim to prevent security breaches. Furthermore, it is crucial for these strategies to specifically cater to the safety needs of women and children.

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