



PLANNING MALAYSIA:

Journal of the Malaysian Institute of Planners

VOLUME 20 ISSUE 5 (2022), Page 352 – 362

MODE CHOICE OF MOTHERS TRAVELLING WITH YOUNG CHILDREN IN MALAYSIA

**Yong Adilah SH¹, Suhana Koting², Nur Sabahiah³, Melasutra MD⁴,
Nurfatin F.⁵, Osada Teppel⁶**

*^{1,5}Department of Urban and Regional Planning
UNIVERSITY MALAYA*

*²Centre of Transportation Research
UNIVERSITY MALAYA*

³School of Civil Engineering

UNIVERSITI SAINS MALAYSIA

*⁴Centre of Sustainable Urban Planning and Real Estate, SUPRE
UNIVERSITY MALAYA*

*⁶Faculty of Engineering
UTSUNOMIYA UNIVERSITY JAPAN*

Abstract

Transportation has evolved tremendously; concurrently, the discussion on gender-based transportation demands has grown over the last few decades. Attention is increasingly given to women's needs in transportation, as more women work and travel outside their homes. In developed countries, special considerations of women's travel needs are aimed to ensure their safety when using public transportation. However, as more women can afford a car and possess a driving license, independent travel has also become more feasible, accessible, and comfortable for women, worsening traffic congestion. This article looks at the challenges faced by women, in particular mothers with young children, when using public transportation in Malaysia. Factors like work-family duties, accessibility and connectivity, preference, and provision of public transportation facilities emerged from the analysis of 194 respondents' data. To move towards sustainable cities in Malaysia, these aspects of transportation must be explored to promote public transportation usage by mothers with younger children.

Keyword: Mother's Mobility, Children Mobility, Public Transportation

¹ Senior Lecturer at Faculty of Built Environment, University Malaya Email: adilah_shamsul@um.edu.my

INTRODUCTION

One of the common arguments raised by both men and women throughout our many focus group discussions on public transportation was the need to provide dedicated public transportation to a specific gender. Many early researchers in this field have commonly associated issues pertaining women's mobility with safety, especially in the case of dedicated public transportation for women. In fact, women often refuse or are intimidated by public transportation because of escalating safety problems like rape, molestation, assault, snatch theft, and robbery. Although the same incidents may happen to men, women find it harder to defend themselves, especially in countries with a high rate of crime against women. Delving deeper into this problem, we selected mothers with young children as the subject of our examination to understand why they do not prefer to use public transportation. Reasons may range from limited facilities (e.g., no designated space for strollers or no breastfeeding-friendly areas) to the lack of accessibility and comfort. As long as this issue is not discussed or carefully analyzed, low ridership in public transportation will persist, leaving only single women or men as users of public transportation.

Women's commuting behavior has been found to differ from men's based on general factors like trip behavior, safety, and even commuting activities. These differences, however, do not imply that these factors are the sole reasons women use public transportation or private vehicles more than men. Thus, there is still room for debate on the nature of women's commuting behavior, especially mothers of young children. Why do we even want them to commute using public transportation? Private vehicles make it easier to perform multiple trips with multiple travel occupants. This means in one commute, a mother is able to drive two or more kids in one vehicle to multiple places without having to transit between different stations and waste time waiting for the next transit. This also means mothers' journeys are more flexible and able to accommodate more luggage or children's needs. However, this trend will only lead single-turned-parent women to greater dependency on private vehicles, leaving public transportation as the last or forgotten option. Ultimately, difficulties will arise in reducing the percentage of cars on the road as well as in motivating people to use public transportation. Therefore, the issue now is whether we need to encourage mothers with young children to use public transportation.

As indicated in many previous studies, women's reliance on private vehicles assists mothers' daily travel by offering them the authority and autonomy to make better decisions about their trips. Switching from this mode to the public one means that mothers have to make sure their children's schools or kindergartens are closer to their workplace, allowing them to just drop their children on-foot while walking to work from a public transportation station. In fact, in many developed countries, working mothers with younger children show an incredibly promising dependence on public transportation, as more

kindergartens are developing near working places in the city and mothers have more public commuting options instead of only private vehicles.

In Malaysia, inspired by the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), Sustainable Development Goals (SDG), and the Beijing Action Plan, the government has launched the *Dasar Wanita Negara* and the *Pelan Tindakan Pembangunan Wanita* for female empowerment. The involvement of women in policy making roles has also increased in the Malaysian government sector, which aligns with the United Nations' goals; nonetheless, female participation in the private sector in Malaysia remains low at 25.8%.

With regard to public transportation, policy making falls within the jurisdiction of the Ministry of Transport Malaysia under the Economic Planning Unit (EPU). Although different agencies are responsible for different public transportation modes, the ministry oversees all their functions, responsibilities, and licenses. Based on the government's aspirations to increase public transportation usage to 60% by the year 2030, public transportation policy focuses more on land-based transport modes because they have a greater impact on the reduction of private vehicles on the road. In addition, transportation is also addressed by the Women and Family Affairs Ministry, which emphasizes inclusivity in providing friendly services to women, children, the elderly, and the disabled. Such inclusivity encompasses the use and accessibility of public transportation, as can be seen in the development and improvement of public transportation services over the years. Although the participation of women in the labor force is only 55.4%, the evolution of transportation has led to growing numbers of women joining the workforce. Moreover, with the aspiration to encourage lower income groups to use public transportation, programs like MY30 (where users had to pay only RM30 per month for a travel pass in June 2020) have given numerous benefits to public transportation users, including women. The Women and Family Affairs Ministry has also supported efforts to ensure children's rights in public transportation as well as the Child-Friendly Cities Initiative (CFC). This includes ensuring public transportation providers offer safe facilities and infrastructure for children, such as the accessible use of strollers in public transportation.

METHODOLOGY

This study used the survey instrument to collect data from working mothers in Malaysia. Data was gathered in two phases because the COVID-19 pandemic in Malaysia disrupted the administration of the first survey and caused significant delays. On the 1st of November 2020, the first survey was distributed to working women with children using the snowball sampling technique. The second survey was distributed randomly in several primary schools on 9th March 2021 to encourage more participation from mothers. A total of 194 respondents

participated voluntarily by completing the survey through an online Google Form. The main purpose of this study was to acquire an understanding of the travel behavior of working women (i.e., mothers) when traveling with their children aged below 12 years old. As this study was part of a larger research on women's travel behavior, only data on the participants' mode choice when traveling with younger children in Malaysia was extracted and examined from the main dataset. Cross-tabulation, Chi-square, and Spearman's rank order correlation were used to analyze the data.

Chi-Square Independent Test

The Chi-Square Independent Test is used to assess whether there is a relationship between two categorical variables, especially for nominal variables. Therefore, the researcher adopted this method to detect the association between variables through cross-tabulation. The tested variables were monthly income, educational status, parents' daily transportation to work, children's daily transportation to school/nursery, and the distribution of childcare duties among couples. Table 1 shows the cross-tabulation of respondents' age with their respective partner's age. A majority of the respondents and their partners were between 30 and 39 years old. It can thus be concluded that the age gap between couples is generally small. Additionally, this age group recorded the most children aged under 12. It appears that the higher their age, the lower the tendency of couples to have younger children. It was also revealed that women acquire higher educational qualifications than their spouse, as 168 respondents reported having a post-secondary education compared to only 129 spouses who had the same education level (see Table 2). However, as shown in Table 3, the monthly income distribution among couples indicates little variation, given that 117 respondents and 115 spouses earned a monthly income from below RM999 to RM4999, falling under the B40 income group. Overall, it can be concluded that there is a significant association between couples' educational status and monthly income. Notably, although most women are better educated than their male counterparts, some women still earn the same as or less than their partner's monthly income. In fact, several previous studies have reported that though women hold higher educational qualifications, their workforce participation is still low in the global context, while those in the workforce are not well-positioned for employment opportunities or are overqualified for current positions (Charlesworth et al. 2011; Craig et al. 2018; Risse 2018). Apart from that, despite their higher educational level, women could be lacking in terms of work experience compared to men, who typically enter the workforce immediately after graduating from an institution. This could also explain women's lower monthly income.

Table 1: Respondent's age * Partner's age Cross Tabulation

		Partner's age					Total
		20 to 29 years old	30 to 39 years old	40 to 49 years old	50 to 59 years old	Others	
Respondent's age	20 to 29 years old	17	3	0	0	0	20
	30 to 39 years old	0	95	19	1	7	122
	40 to 49 years old	0	6	39	1	2	48
	50 to 59 years old	0	0	0	2	2	4
Total		17	104	58	4	11	194

Table 2: Respondent's Educational Status * Partner's Educational Status Cross Tabulation

		Partner's educational status							Total	
		U P S R/ P M R/ S R P	S P M	S T P M /E qu iv al en t	D i p l o m a	D e g r e e	M a s t e r	D o c t o r o f P h i l o s o p h y		N o t A p p l i c a b l e
Respondent's	Informal	0	0	0	0	0	0	0	1	1
	SPM	2	10	0	2	1	0	0	5	20

educational status	STPM/Equivalent	1	2	0	1	1	0	0	0	5
	Diploma	0	16	0	12	4	1	0	0	33
	Bachelor's degree	0	13	3	17	4	10	5	5	94
	Master	0	6	1	3	12	7	0	0	29
	Doctor of Philosophy	0	0	0	1	6	0	5	0	12
Total		3	47	4	36	65	18	10	11	194

The analysis reported no association between respondents' monthly income and choice of transportation mode to work (see Table 3). The main transportation mode for women, regardless of income level, appears to be the car. Indeed, most respondents reported to choose a private car over other transportation modes. Meanwhile, their male partners' selection of transport modes is fairly distributed across their monthly income, wherein most men use a motorcycle or car to travel to work despite having multiple choices of transportation mode. From the findings, it can be assumed that women tend to travel by car because it does not only improve time management and schedule control, but is also more convenient and comfortable, especially when commuting with dependent children.

Table 3: Respondent's Monthly Income * Partner's Monthly Income Cross Tabulation

		Partner's monthly income						Total	
		R M 999 and below	R M 1000 to RM1999	R M 2000 to RM2999	R M 3000 to RM3999	R M 4000 to RM4999	R M 5000 and above		Not Applicable
Respondent's monthly income	RM999 and below	2	0	0	0	0	1	1	
	RM1000 to RM1999	2	6	3	2	2	2	3	20
	RM2000 to RM2999	1	7	7	6	3	3	1	28

	RM3000 to RM3999	2	3	10	19	4	5	0	43
	RM4000 to RM4999	0	3	5	2	5	4	3	22
	RM5000 and above	3	2	5	6	5	53	3	77
Total		10	21	30	35	19	68	11	194

There is a significant association between a couple's transportation mode to their workplaces and their children's transportation mode to school/nursery. Notably, the highlighted value indicates that more mothers send their children to school/nursery by car than fathers. It can thus be concluded that though most couples share childcare duties, especially in sending children to school/nursery, there are still many women who hold on to the primary role in childcare. This was reported in previous studies as well, which found that men travel longer for work purposes while women travel longer for domestic purposes (Sanchez et.al, 2014; Motte-Baumvol et al. 2017).

The results show that there is a significant relationship between children's daily transportation mode to school/nursery and the distribution of childcare duties among couples. Given that most of the respondents send their children to school/nursery using a car, it can be concluded that a car is preferred over other transportation modes because mothers are responsible for sending children to school before going to work every morning. In addition, the total count for fathers and mothers is not vastly different from the total count for mothers alone, indicating a fair distribution of childcare duties among couples. Meaning that, both parents either take turns sending their children to school or send them together using one car (car-sharing).

Spearman's Rank Order Correlation

Spearman's correlation measures the direction and strength of the monotonic link between two continuous or ordinal variables. It a non-parametric measure used when data has violated assumptions by (1) not being normally distributed, (2) having outliers, and (3) having one or both variables in ordinal form. In addition, it uses ranking data rather than the absolute values of the variables. As the present analysis involved ordinal variables, this method was adopted in the study. The variables that were tested were work-family duties, accessibility and connectivity, preference, and provision of public transportation facilities.

As shown in Table 4, there is a significant positive correlation between work-family duties and accessibility to private transportation, especially during emergencies. This indicates that respondents' work-family duties are related to their access to transportation modes. As private transportation is more accessible

than public transportation, it is not surprising that it has a stronger influence women’s mode choice to perform their duties. Indeed, if public transportation services offer higher connectivity and accessibility, there is a greater chance of women choosing these services as their daily travel mode.

Table 4: Spearman’s Correlation for Work-Family Duties and Accessibility to Private Transportation

		Correlations		
			Work-family duties and other commitments	Higher accessibility to private transportation
Spearman's rho	Work-family duties and other commitment s	Correlation Coefficient Sig. (2- tailed) N	1.000 . 194	.456** .000 194
	Higher accessibility to private transportatio n	Correlation Coefficient Sig. (2- tailed) N	.456** .000 194	1.000 . 194

** . Correlation is significant at the 0.01 level (2-tailed).

There is also a significant positive relationship between respondents’ preference of travel modes and work-family duties, suggesting that the nature of their duties affect their preference for a particular transport mode (see Table 5). As women take on multiple roles and responsibilities in a day, transport modes must meet specific criteria in terms of convenience, safety, time management, unpredictable events, productivity, and more. In addition, there is a significant positive relationship between the provision of public transportation facilities and parental permission for children’s independent travel to school. When more public transportation facilities are provided to secure children’s safety, parents are more likely to allow their children to travel independently when they reach a certain age or maturity level. Although the correlation is not strong, it explains that most parents probably do not permit their children to travel independently due to safety issues, especially when they are not under adult supervision.

Table 5: Spearman's Correlation for Preference of Travel Modes and Work-Family Duties

		Correlations		
			Prefer private transportation over public transportation	Work-family duties and other commitments
Spearman's rho	Prefer private transportation over public transportation	Correlation Coefficient	1.000	.415**
		Sig. (2-tailed)	.	.000
		N	194	194
	Work-family duties and other commitments	Correlation Coefficient	.415**	1.000
		Sig. (2-tailed)	.000	.
		N	194	194

** . Correlation is significant at the 0.01 level (2-tailed).

DISCUSSION

Children aged zero to six years old are far more dependent than older children aged seven to 12 years old, who also depend on their parents or caretakers to go to primary school. Although this situation may vary across cultures, demographics, and countries, children at these ages typically rely on adults for all decision making. From this perspective, this study's findings reveal several important takeaways. First, children are not able to decide their own travel mode based on the distance between their home and school and the lack of a good traffic environment to support independent travelling. Most urban areas in Kuala Lumpur sprawl across vast spaces, lengthening the distance between suburban houses and schools. In turn, mature housing areas are located near schools but have more elderly residents than young children. This has resulted in inefficient travelling, whereby children living far from schools have to go to school by car while the elderly living in housing areas near schools are disturbed by traffic congestions during peak hours. A bad traffic environment, including busy traffic, high traffic junctions, and poor pedestrian facilities with limited connections, also makes walking to school nearly impossible for children.

Second, mothers with younger children do not receive any privileges at their workplace. They are treated the same as women with elder children, women with no children, single women, and men. This means they receive equal amounts of work leave, salary, working hours, and entitlement as other workers. Consequently, mothers with younger children have no flexibility despite having to prepare and travel with their infants or babies to kindergartens, nurseries, or

caretakers. For mothers, travelling with children involves not only travelling with additional nursery bags and formula/breastfeeding milk but also travelling to several places if they have more than one dependent child. This makes travelling with a car more efficient and time-saving than waiting for public transport and walking to transit stations. Therefore, a car is a necessity and no more a choice for mothers with younger children.

Third, regardless of the role played by the husband or partner, mothers are always responsible for their younger children. Parents with younger children thus always depend on cars to travel to work or school in the city's urban locations, as most families seek bigger housing spaces commonly found in farther suburban areas. Even low-income families that live in the city center rely on cars to travel, albeit with differences in the type of vehicle they own. In certain cases, family members may live and travel separately during the work week and only meet on the weekends to save travelling time and costs.

Finally, it is difficult to justify the concepts of ability and perception as factors contributing to the reliance on public transportation. This is because none of the respondents in this study use public transportation to take their children to school or to any other places. Encouraging children to walk to school independently is also almost impossible with the poor conditions of land use, transportation integration, and public transportation infrastructure. While many studies have highlighted the use of public transportation in urban areas, they did not clearly discuss the use of public transportation among parents with younger children, whose impact may have been misconstrued as small. In reality, the use of cars by parents with younger children significantly exacerbates the high traffic volume predicament in Kuala Lumpur. Given that household characteristics will always determine travel behavior; attention must be directed to barriers for mothers to travel using public transportation.

CONCLUSION

This study enhances the understanding of the travelling choices of mothers with younger children. The findings in this research suggest that there is almost no reliance on public transportation among mothers of younger children in Kuala Lumpur, Malaysia, who only look to public transport as a last resort. Instead, a private car has become the first choice of mothers when travelling, which will persist even after the child has grown up. The use of cars is important for mothers to ensure their children are comfortable and to travel to work efficiently. Young children imitate their parents' behavior in various ways; consequently, parents' (especially mothers') culture affects the way children will behave as adults in the future. The cycle of dependence on private vehicles will therefore continue if certain interventions do not emerge within the child's life development. Ultimately, to reduce single-occupant vehicles on Kuala Lumpur roads, more people must use public transportation, including women. To this end, more

transit-oriented development or compact city initiatives can be implemented to shorten travel distances and improve public transportation facilities. However, this is not certain until further research is conducted, as perceptions of safety and security still play a key role for mothers to travel with younger children.

This study is limited by the scope of its variables. Some variables that were not discussed in this research include the number of cars owned, type of car, driving skills, weather, and accident experience, all of which can be secondary factors in the decision to travel by car or public transportation with younger children. Future research on this topic can incorporate these variables in more controlled sampling conditions, such as a sample of mothers of special needs children (e.g., autistic, disabled, etc.). This study is also descriptive in nature; as such, future studies can conduct more in-depth quantitative and qualitative analysis of this phenomenon.

ACKNOWLEDGEMENTS

We would like to acknowledge Ministry of Higher Education Malaysia for the Fundamental Research Grant number FRGS/1/2019/SS06/UM/02/2 and everyone who participated in the survey.

REFERENCES

- Charlesworth, S., McDonald, P., & Cerise, S. (2011). Naming and claiming workplace sexual harassment in Australia. *Australian Journal of Social Issues*, 46(2), 141-161.
- Craig, L., & Mullan, K. (2011). How mothers and fathers share childcare: A cross-national time-use comparison. *American sociological review*, 76(6), 834-861.
- Risse, L., Farrell, L., & Fry, T. R. (2018). Do gender gaps in confidence explain gender gaps in wages?.
- Sánchez, O., Isabel, M., & González, E. M. (2014). Travel patterns, regarding different activities: work, studies, household responsibilities and leisure. *Transportation Research Procedia*, 3, 119-128.
- Tey, N. P. (2022). Demographic dividend with a gender dimension in Malaysia.
- Motte-Baumvol, B., Bonin, O., & Belton-Chevallier, L. (2017). Who escort children: mum or dad? Exploring gender differences in escorting mobility among parisian dual-earner couples. *Transportation*, 44(1), 139-157.

Received: 28th September 2022. Accepted: 1st December 2022