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The effects of gender transport poverty in Karachi

Abstract

Karachi is the economic hub of Pakistan, with an estimated population of 20 million (Ali, 2017). However, it lacks a systematised public transport service, with few buses and no trains, leaving private bus owners to run poor-quality deregulated services. Although it may be argued that poor service fails to accommodate the needs of the inhabitants of this megacity, women are additionally marginalised by restricted transport services. Men not only have more space allocated to them on public transport but also have the freedom to use alternative and cheaper private modes of transport such as motorbikes and cycles, which are socially discouraged for women. However, there is little literature on the barriers to women's mobility in countries in the Global South, which shows how they are differentially deprived of their agency owing to the cultural norms and gender disparity in transport provision. This paper aims to identify and assess the various aspects of gender transport poverty faced by young working women in Karachi using a quantitative survey. It will broaden the understanding of gender transport poverty in the Global South.

1. Introduction

A sound transport system is widely seen as a pre-requisite for accessing economic opportunities (Haeri, 2002; Anwar, 2013). Historically, transport studies have tended to focus on the technical and monetary aspects of mobility. More recently, there is a growing recognition of the value which mobility carries that renders it an embodiment of freedom (Uteng and Lucas, 2018). There is also an awareness that guaranteeing freedom through mobility requires much more than improving transport infrastructure and necessitates studying mobility practices as 'social texts' to understand the power dynamics that shape mobility experiences and personal autonomy (Doughty and Murray, 2014: 311).

However, in the Global South, as represented by Pakistan, technocratic approaches dominate the practices of urban transport authorities (Uteng and Lucas, 2018: 12), and social issues affecting an individual's mobility have not been considered in transport planning (Lucas et al., 2016). There is a lack of empirical research showing the experiences of people in terms of their daily mobility, and the socio-cultural influences acting upon it (Adeel, 2016).

This paper aims to study the concept of transport poverty in the context of Karachi. It argues that in order to adapt this concept for the current context, attention needs to be given to the social and structural barriers faced by women. Hence the argument is supported by a discussion of the factors that impede women's mobility and underlines the ways in which, in Karachi, this is rooted in gender inequality. Such a discussion requires adopting a constructivist approach, since it assumes that human experience is 'embodied, inter-subjective, and contingent, and woven into personal and cultural webs of signification' (Simms and Stawarska, 2013: 12). Therefore, the paper recognises that just as gender is socially constructed (Butler, 1990), mobility is socially produced and is relational (Jensen, 2009: 139).

2. *Background of the study*

2.1. Context of the study

Karachi, despite being the economic hub of Pakistan, lacks an efficient and effective public transport service (Ali, Uddin and Imran, 2010). For example, the service provided is unregulated, of poor quality, run by untrained staff and private operators, with just about 20,000 buses and no other forms of mass transit (Ahmed 2019). It has a passenger to seat ratio of 1:40, while in other developing cities - such as Mumbai and Hong Kong - the ratios are 1:12 and 1:8 respectively (Qureshi, 2010: 317). The buses operate on 111 routes— a decrease from the previous figure of 329 routes, despite increases in demand for transport

(Hashim, 2015). This reduction can be particularly problematic for a city whose population has increased manifold with a growth rate of 5% each year (Khawar, 2017).

Moreover, Karachi's population is 96% Muslim (Hasan and Mohib, 2003: 10). In common with similar cities, gender-segregation in public spaces is considered culturally appropriate and legally enforced. The segregation carries forward into transport, in public buses, men and women sit in separate compartments (Qureshi, 2010), and women are allocated less than 1/3rd of the seats with a ratio of 7:25 (Adeel, 2016). This practice can be seen as 'serving to maintain the on-going lack of acceptance of women's occupation of public space in the wider context such as on the streets and general public realm' (Harrison, 2012: 34). Consequently, their needs are not considered or adequately reflected in transport policies.



Figure 1 and 2: Rickshaw and Qingqi

In Karachi, almost 50% of the city's population depends on public transport (Qureshi and Lu, 2007: 312). Other popular modes of transport besides public buses are three-wheeler paratransit vehicles, namely auto-rickshaws and qingqi, as shown in figures 1 and 2. As in other South Asian and African cities, these are mostly informal services that have filled the gaps in public transport and gained popularity due to 'the inability of the masses to own private vehicles' (Sen, 2016: 10). Women are more dependent on these paratransit vehicles

since they allow them to reduce the time and distance they need to walk in hot, humid, and polluted conditions (Haeri, 2002). The availability, low cost and open nature of the paratransit vehicles reduces the chances of women being harassed by passengers and drivers of public transport, whilst waiting for buses (Asian Development Bank [ADB], 2015: 9). Their study revealed that 78% of women in Karachi faced sexual harassment on public transport and in connected spaces, which has resulted in over 50% of women reducing their use of public transport in the evening and curtailing their leisure activities. Like many developing countries, the gender roles prescribed for women in Pakistan do not accommodate the idea of women making use of public spaces and their presence in these spaces is seen as a transgression from cultural norms (Roy, 2010).

The instrument of purdah underpins the seclusion of females from males, and according to Haque, it has two forms: ‘the visible that is manifest in seclusion, dress and segregation of the sexes, and the invisible, which is prevalent in the underlying attitudes of society’ (2010: 304). When it comes to transport, this is mainly implemented through separate compartments for females in a public bus (Papanek, 1971: 520). Such ‘institutionalised segregation principles (separate seats for females on public buses, for example) to restrict and control females’ interactions with both urban and rural spaces’ is justified based on religion and culture for enabling females’ mobility (Riaz, 2012:4). Not only is physical gender segregation favoured, but females are advised to adopt the culturally preferred ways of covering themselves using the veil and not to travel unaccompanied, for preventing free mingling between male and female. This phenomenon is discussed here under the category of sex-based poverty since it is mainly caused by one’s biological sex.

2.2. Literature review

The study adopts the theoretical framework of transport poverty, developed by Lucas et al. (2016) which stresses that transport-related social exclusion should not be limited to the inaccessibility of transport services but should also encompass social disadvantage caused by poor health (e.g., disabilities) and land use. This model conceptualises transport poverty as encompassing not only the lack of physical and financial resources but also the social and spatial deprivations which can influence an individual's mobility. Differentiating between transport disadvantage and social disadvantage, and building a relationship between the two, makes transport poverty a more useful concept for understanding the multiple causes of transport-related social exclusion (Lucas, 2011). Thus, the socioeconomic status, marital status, age of the travellers, and other forms of social stratifications, can also contribute to one group facing more social disadvantage than others (ibid). Lucas et al. (2016) identified four conditions which can contribute to transport poverty:

- Mobility poverty; non-availability or poor design of motorised transport appropriate to the needs of an individual.
- Accessibility poverty; the inability of the available transport to reach destinations that can accommodate the activity patterns needed by an individual to have a decent quality of life.
- Transport affordability; not being able to afford the cost of transport.
- Exposure to transport externalities; including the harmful effects of exposure to the transport system itself, such as traffic congestion, pollution or accidents.

These factors can lead to reduced mobility and marginalisation of groups (Uteng and Lucas 2018: 6). A related concept in mobility studies is that of social exclusion, which may be perceived as unequally 'distributed across socio-economic and ethnic groups' (Mathieson et al., 2008: 13). Transport-related social exclusion recognises that mobility is socially produced

and is unevenly distributed along ethnic, class, gender, and religious lines (Anwar, 2013: 15). The emerging themes in the literature on social exclusion, emphasise the importance of mobility in enhancing social capital and freedom (Creswell, 2010). Levitas et al. (2007: 9) defined social exclusion as involving: ‘... the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas. It affects both the quality of life of individuals and the equity and cohesion of society as a whole.’

Although it is clear what characterises social exclusion, there is ‘no common definition of the dimensions and factors’ contributing to it (Hine and Mitchell, 2001: 22). The causes of social exclusion, together with its measures and indicators, vary geographically (Stanley and Vella-Brodrick, 2009: 92). However, there is a consensus that as opposed to poverty, social exclusion is not merely an outcome of the lack of material wealth, but the lack of participation due to spatial, cultural and temporal constraints can cause it (Preston and Rajé, 2007). Social exclusion involves individuals, institutions, and systems which combine to make it difficult for some people to participate in core activities. This view resonates with Burchardt’s (2000:388) approach towards social exclusion, which investigates the non-participation of an individual in the socio-cultural and economic fora for ‘reasons beyond his or her control’.

Previous studies in the field of social sciences have studied the complex relationships between socially constructed gender and mobility (Levy, 1992; Little, Linda and Richardson, 1989; Grieco, 2003). For Levy (2013:52), travel choices and decisions are not only dependent on mobility needs, but also on gender norms that dictate power relations (Mattioli, Lucas and Marsden 2017). This insight requires looking at the social structures or discourses, such as

gender norms, that define or shape people's mobility patterns (Thynell, 2016). However, most of the quantitative studies only highlight the differences in mobility patterns without detailing the factors that lead to certain choices and decisions related to transport. Therefore, there is a need to go beyond the conventional measures of understanding transport poverty to identify gender-relevant themes. Gender transport-poverty, the focus of this paper, is thus considered to arise not only because of the problems associated with poor and expensive forms of transport but also from the discrimination faced by women to choose mobility patterns and transport modes.

The emphasis on personal freedom requires understanding the nature of human identity (Kaufman, 2002). Thus, there is a need to analyse women's (im)mobility and understand whether it is imposed or chosen (Song, Kirschen and Taylor, 2019: 142), or a by-product of poor practices. This inquiry necessitates investigating the barriers that exert power on women's independence, such as traditional gender roles (Hoodbhoy, 2013). The current paper thus adopts a constructivist paradigm and goes beyond the four concepts of transport poverty mentioned above to provide a more nuanced understanding of gender transport poverty in Karachi.

3. *Methodology*

The paper addresses a gap in the conceptualisation of the reasons behind gender transport-poverty and its various characteristics in Karachi. It aims to describe important factors or aspects of the current situation, which helped understand the relationship between travel characteristics and the identities of individuals. By gathering statistical data, it allowed to explore the gender-segregated mobility patterns and tease out the complicated relationship between transport and the wider socio-economic context. To understand such complex relationships, there is a need to provide 'empirical information regarding gender inequalities,

differences, and similarities at various levels’ (Drew, Emerek and Mahon, 1998: 20). Therefore, it is important to have reliable first-hand data that can help see to investigate gender differences in mobility patterns.

As part of a wider ongoing doctoral study, following ethical clearance and piloting, an online survey was developed using the web-based tool - Bristol Online Survey (BOS) - and conducted in 2018 with close-ended, multiple-choice or Likert scale questions. These were related to various aspects of user experience with transport, such as affordability, time, accessibility measures and performance of public transport. The survey questionnaire comprised of five categories (shown in table 1) and was designed to analyse the relationship between nominal data, i.e., gender, age, and marital status, and ordinal values related to the level of satisfaction with public transport.

Section	Description
Demographics	Age, education, ethnicity, income group, household composition
Economic activity	Average income, income group etc.
Your mobility	Experiences of travelling during different times of the day
Use of transport	Main mode of transport, expenditure, travel patterns, experiences
Your household	Decision-making regarding different activities

Table 1: Main components of survey

The survey link was shared with 100 men and 100 women in Karachi through social media. It received 185 valid responses; ninety-five were from women and, ninety were men, aged between 16-40 years. The respondents were resident in Karachi and had either spent substantial time on public transport or were dependent on it at the time of the survey. About 80% of the respondents were employed while the rest were either students or homemakers.

In order to ensure the validity of results, it is important to minimise bias. To facilitate this, three research supervisors/co-authors independently read the scripts, coded and analysed data to enhance the validity of the emerging themes and claims. The survey analysis was used to understand and compare the mobility characteristics and patterns of men and women. Descriptive statistics have been used to present quantitative data to understand gender differences in mobility patterns as well as the underlying reasons behind these differences. Subsequent work (not in the scope of this paper) has used qualitative methods to gain further insight into the lived experiences of an underrepresented sector of the population of young working women essential for understanding the phenomenon of transport poverty in Karachi.

4. Synopsis of Results: Transport poverty in Karachi

The survey results revealed gendered use of transport modes among the respondents, with women being more dependent on rickshaws and ride-hailing services. About 30% of the total male respondents were dependent on public buses as opposed to only 10% of women (figure 3).

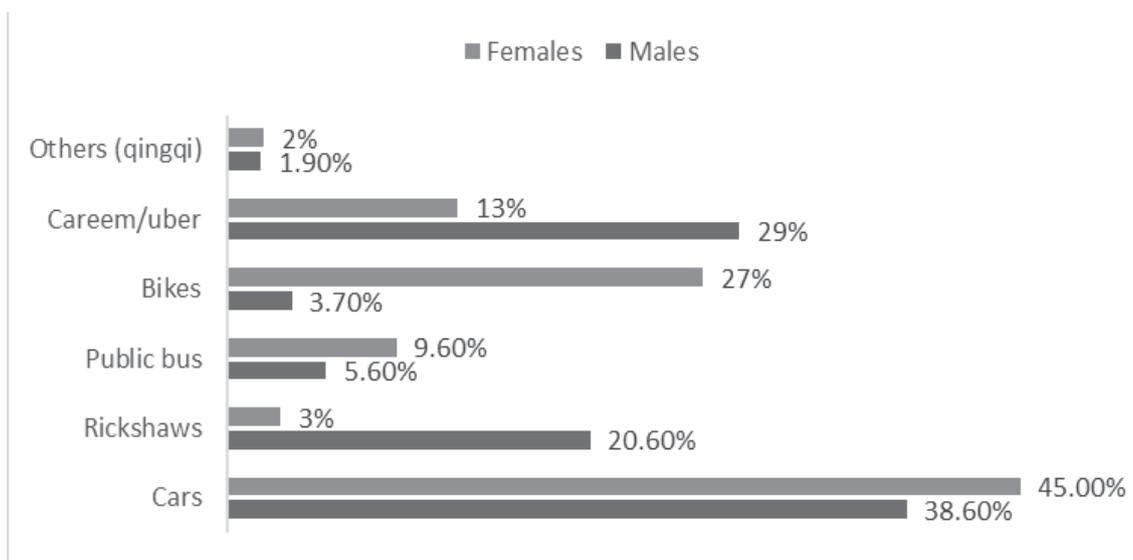
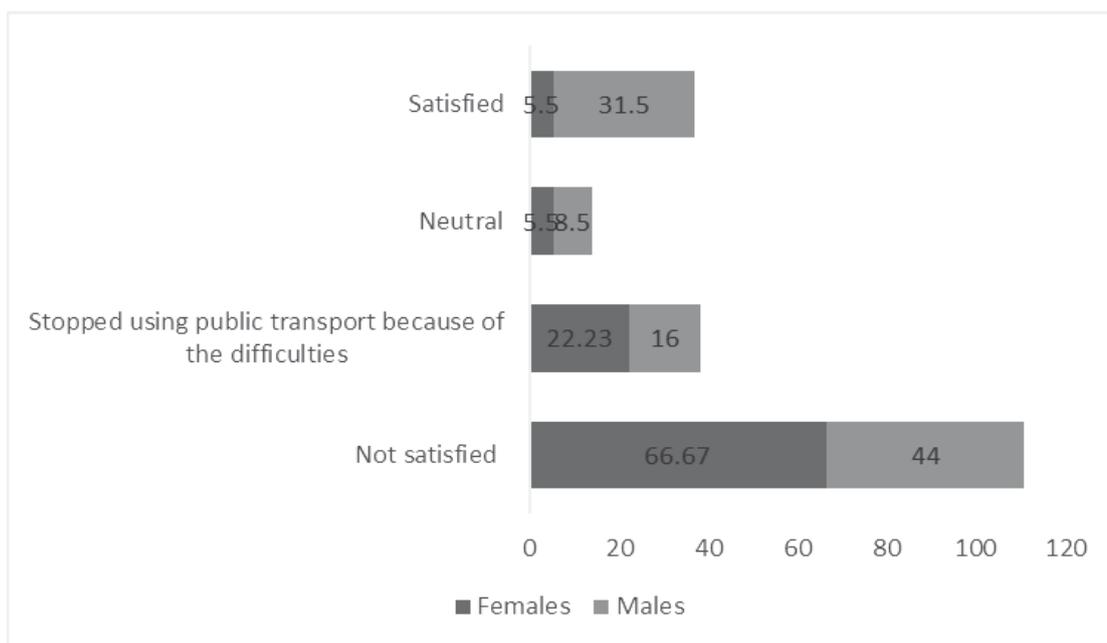


Figure 3: Dependency on modes of transport among females and males

The reason for this modal difference may partly be explained by the lower levels of satisfaction among women towards public transport, which in many cases resulted in them abandoning this form of transport. Approximately 67% of women, as opposed to 44% of men, declared that they were not satisfied with public transport, as shown in figure 4. Women’s lower overall levels of satisfaction may be attributed to several factors including, lack of seats, lack of route coverage/ information and harassment. These can be mapped on to 3 themes: mobility poverty; accessibility poverty; and gender-related safety issues. Women were reliant on alternative forms of transport, such as rickshaws, which were more expensive but ensured relatively safer and more reliable journeys. Their satisfaction level was highest for ride-hailing services such as Careem (similar to Uber) with women in this sample prioritising safety over saving the cost.



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Figure 4: Satisfaction levels of women with public transport

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This trend towards the greater use of ride-hailing services by women was evident in increased travel expenditure of women in all income groups (as shown in table 2). Women in lower-

income band (\$2.97 to \$8.44 daily salary), spend 14.5% of their daily salary on transport compared to 9% spent by men; middle-income women (with \$8.44 to \$23 daily salary) spend between 15-18% of their daily income while men with similar salaries spend about 10%. In the case of higher-income category (earning \$23 or more each day), men were spending 6% of their salary, while women around 10%.

These differences may be explained by women’s preference and increased reliance on private and semi-private modes of transport when difficulties arise with public buses. The survey study is replete with data that displays gender differences related to the accessibility of public buses, which makes women opt for more expensive door-to-door services such as contract carriages or vans if they can pay more.

Income group in Pakistan	Percentage expenditure on transport	
	M	F
Lower (between \$2.97 and \$8.44 per capita a day)	8.92%	14.5%
Middle income (between \$8.44 and \$23.03 per capita a day)	10%	15-18%
Higher (above \$23.03 per capita a day)	6%	10%

Table 2: Percentage of monthly income spent on transport by different income groups

Almost 15% of the female participants said that they have to organise their daily trips to work with contract carriage vehicles while men only occasionally used these (as shown in figure 3). These private vans offer door to door service with everyone appropriately seated but charge approximately five times more than public transport. Significant gender-based differences were also found in the distribution of monthly expenditure across different modes

of transport with 24% of women and only 6% of men spending a third of their monthly incomes on rickshaw journeys. This difference reinforces the previous finding that women were less satisfied with public transport, which means that have to pay more of their income on alternative modes of transport to ensure that they travel in safety. Their mobility is therefore constrained by the limited geographic or temporal coverage of public transport as well as economic constraints.

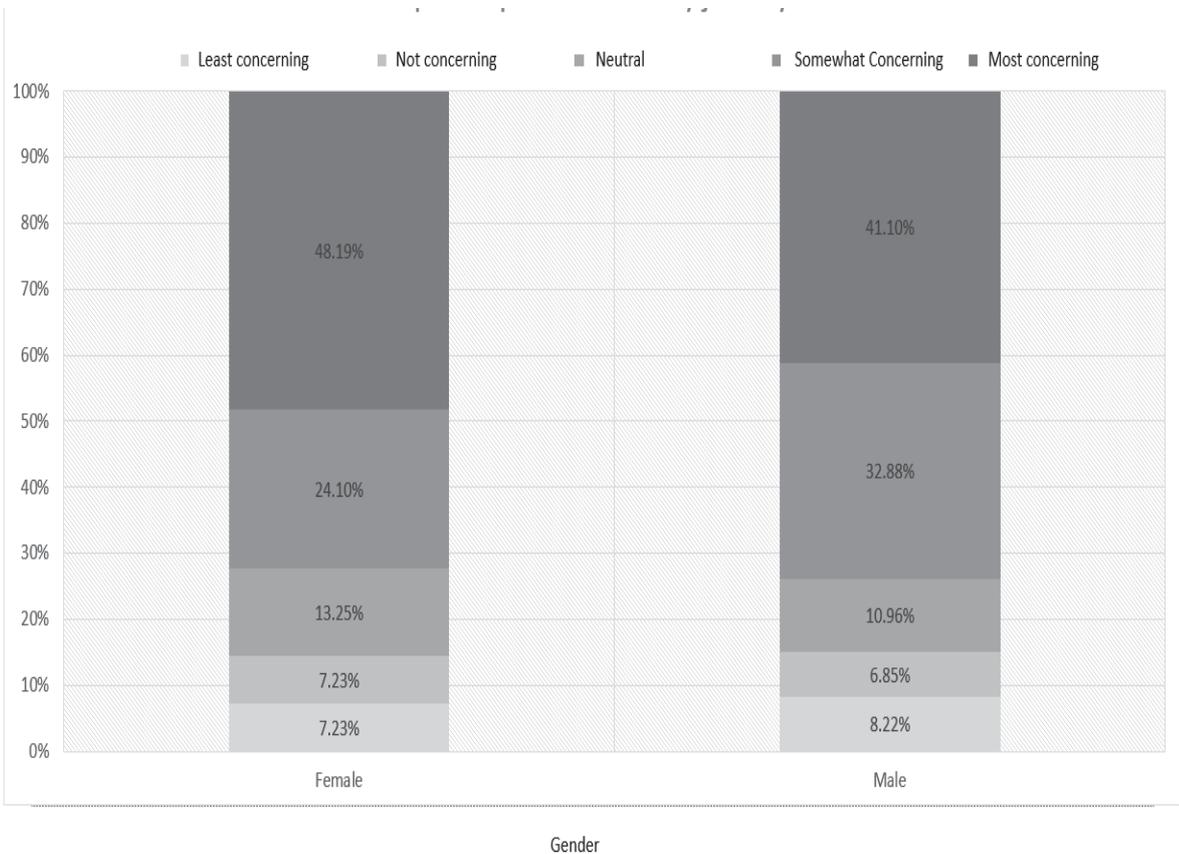


Figure 5: Impact of pollution on women and men

Noise and air pollution can be regarded as the key transport externality which impacts women and men equally (shown in figure 5) and threatens their health. Kazmi, Mehdi and Arsalan (2011) underlines that the noise map for Karachi indicates that as much as two-thirds to three-quarters of the population in the city are exposed to a weekly average noise level greater than 70 dB(A) (Sanchez-Triana et al., 2015). This figure shows that as the city is

growing, there has been a rise in transport externalities posing severe risks to people during their daily journeys.

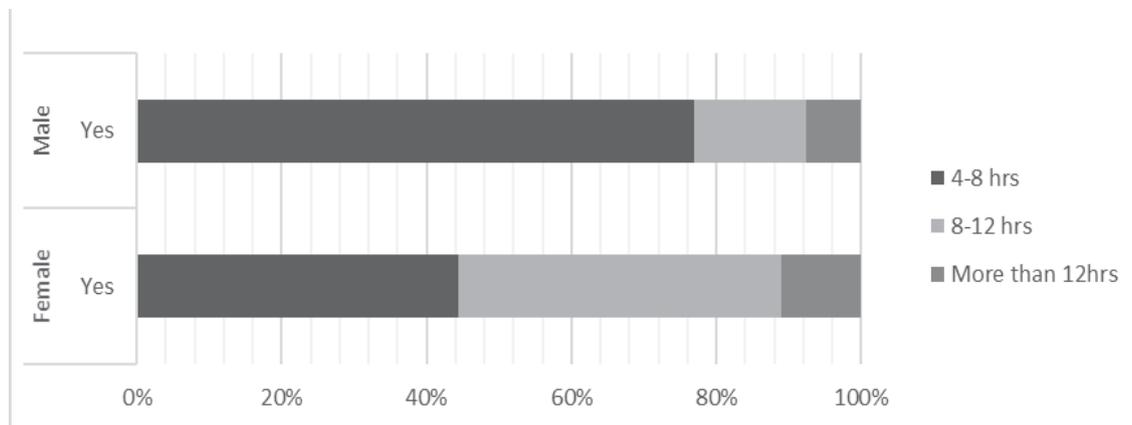


Figure 6: Time spent by men and women on household activities

The survey also inquired about the amount of time that the respondent spends on their daily journeys and if time availability affected their selection of a transport mode. Strong gender-based differences were identified from the data. Most married women preferred to look for employment and education closer to their homes to avoid spending time travelling to far-off locations and being distant from their family in case of an emergency. They also undertook journeys for unpaid care work more than for paid employment and made fewer leisure journeys (as this is socially and culturally frowned upon).

Between 30-40% of women spent around 2 hours travelling between home and workplace; while only 12% of men spent this amount of time on work-related journeys. Men’s commuting time was shortened by 50% if they travelled by motorbike – a mode of transport denied to women. Women’s overall availability to work and travel to work is further reduced by the burden of housework. The survey results showed that more than half the working women also spent 8-12 hours on household chores, with most men spending less than 4 hours on this, as shown in Figure 6.

The time spent travelling or waiting for transport is further exacerbated due to the gendered division of labour at the household level (Song, Kirschen and Taylor, 2019). Women cannot afford the luxury of waiting for transport even if they are not harassed, or working at long distances from home, or taking jobs that require them to work long hours, because they still need to spend time on domestic chores.

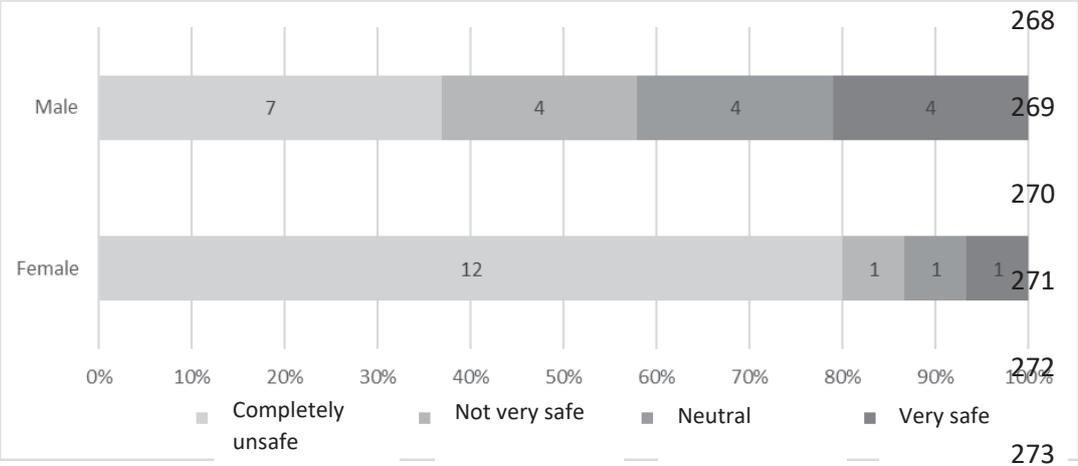


Figure 7: Levels of safety experienced on public buses at night

Gender-based differences from questions related to journey preparation. Personal safety was a recurring theme governing women’s use of transport. Threats to their safety were manifest in the form of sexual harassment from other transport users, and their gender appeared to be a determining factor in case of sexual harassment. Women were facing harassment on a daily basis while walking on the streets, waiting for buses and inside them. Approximately 50% of female respondents faced harassment on an almost daily basis and 30% at least once a week. Approximately 80% of women, in contrast to 35% of men, felt extremely unsafe on buses at night (figure 7).

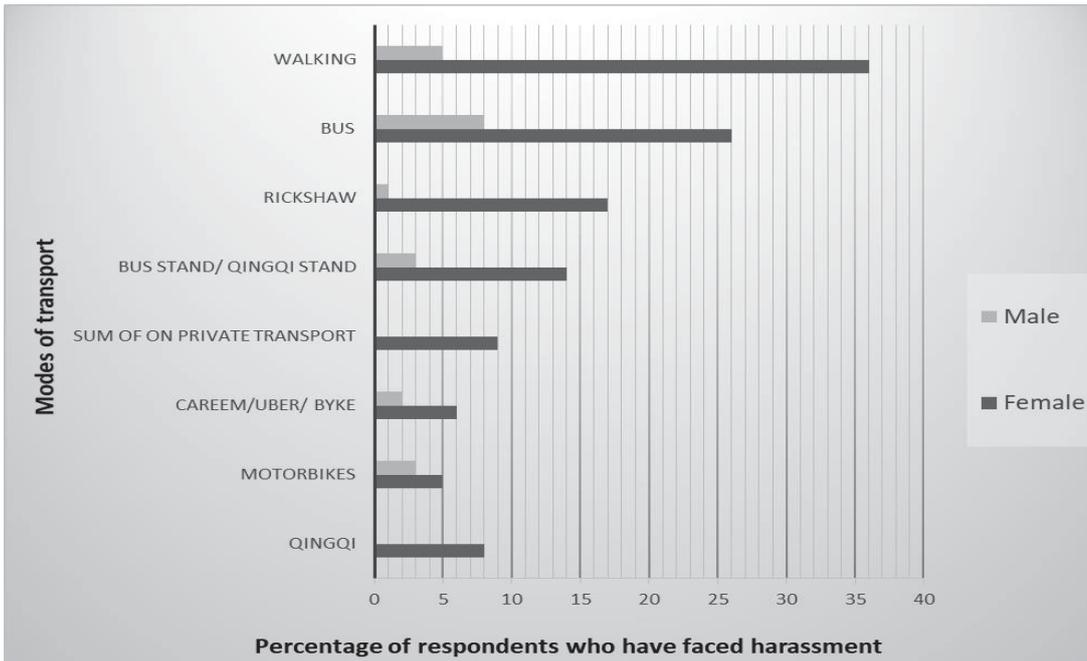


Figure 8: Harassment faced by the respondents on different modes of transport

For most women, travelling alone on public transport at night, after 8 pm, was considered dangerous, and unaccompanied women travelling in the late evening were considered to be of questionable character, commanding severe harassment. Such gender discourses and attitudes translate into perpetuating harassment against women and even in daytime, the journeys for women are not particularly safe. Almost 40% of the women shared that they have been the victim of lewd comments, inappropriate touching, and being followed on public transport. As can be seen in figure 8, most sexual harassment occurs to women while walking (35%). After walking, the frequency of harassment is highest on buses (26%), followed by rickshaws (17%). It is also worth mentioning that inside the buses, women were harassed by both drivers and fellow passengers.

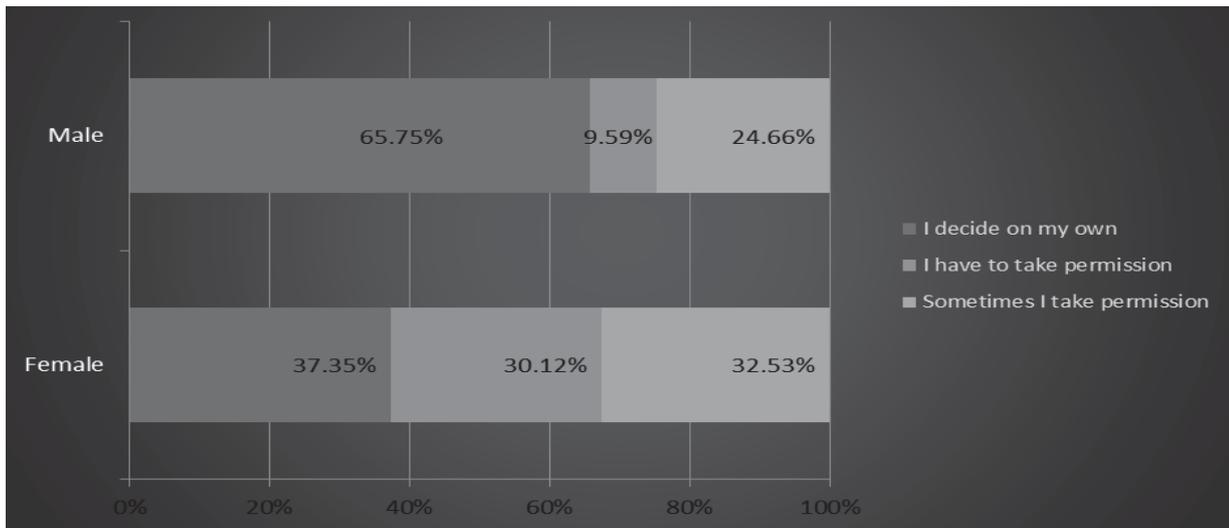


Figure 9: Autonomy to make decisions for leisure journeys

Furthermore, socialising activities are considered unnecessary and/or inappropriate for women. Although 66% of men are free to decide about these journeys, only 37% of women have the liberty to make their own decisions about such trips (figure 9). Therefore, mobility for women was questioned and curtailed, in terms of the frequency and timing by family members.

5. Discussion of Key Findings

In terms of transport poverty, the findings reflect that women are at a disadvantage in terms of gender in the form of additional household chores, harassment, and fewer leisure travelling opportunities. Although the survey results support and reinforce existing understanding regarding the theme of gender construction, the data also displays the need to broaden the concept of transport poverty. It illuminated that besides using the existing theoretical framework of transport poverty, which emphasises mobility poverty, accessibility poverty, affordability poverty, and transport externalities, there is a need to incorporate two new themes. The themes of time poverty and sex-based poverty are discussed below, along with the other forms of transport poverty.

4.1. Mobility poverty

Mobility poverty includes the lack of, or inadequate transport modes and services such as seats, designated bus stops as well as the lack of organised system. Given the ratio of seats to passengers, overcrowding on buses is a daily problem in Karachi (Saleem, 2019). Buses are old, un-ergonomic and poorly maintained, which not only limits the ease and comfort of most of the city's population (Adeel, 2016) but may cause entry and egress injuries, as shared by 47.3% of 150 commuters in a study conducted by the Urban Resource Centre in Karachi (Hasan and Raza, 2015). In more than 50% of the cases, injuries were caused by too high footrests or footboards (Hasan and Raza, 2015: 31). Turner and Fouracre (1995:88) identified gender-specific design issues too, such as the height of entry steps and absence of hold rails which pose additional problems for women wearing a traditional everyday dress, carrying shopping or young children. Another study reported frequent back pain complaints and severe discomfort caused by high footboards among women, which means that 'pregnant women or disabled people cannot commute by bus' (Heraa, 2013).

Due to the demand-supply gap in the public transport sector, motorcycles are the most popular mode of transport for middle-income men in Pakistan due to their affordability and flexibility. Women are discouraged by their families and wider society to drive these vehicles (Mahmood, 2008); riding them is both socially unacceptable (with women riders subjected to abuse and harassment) and dangerous, as women have to ride side-saddle (Khatwani, 2017). Women are, therefore denied access to the use of certain forms of transport, leading to reduced mobility options. The cultural effects on women's mobility, evidenced in their exclusion from cheaper forms of transport have been overlooked and are often justified by concern over their safety. For this reason, many women use ride-hailing service and three-wheeler rickshaws to escape the difficulties associated with public transport.

4.2. Accessibility poverty

In Karachi, accessibility and overall quality of life are hampered due to the poor coverage of public transport, which does not reach destinations that can be important to maintain a reasonable quality of life. Access to transport affected the frequency of travel outside the home, and most of the women complained about the unreliability of public buses, which increased their ability to reach essential services. None of the women considered public buses to be reliable, which greatly affected their ability to access basic service such as healthcare. Many women, 36.6% versus 16% men, shared that they would not feel comfortable travelling on public transport for visiting hospitals. Overall, half the women revealed that they might stop using public transport due to safety concerns, while a quarter would stop because of their unreliability service, and a further quarter because of the image of public transport. Although the lack of timetabling information and organisation - such as non-existent bus stops - created problems for everyone, the unreliability of service seemed to have a more significant adverse effect on women, who were also ignored by bus drivers when they waited at bus stops - drivers expect passengers to get off the bus before it is completely stationary, which women cannot do. Pulling over and stopping the bus, requires additional time and effort, and may slow down journey time, or lead to problems returning to the main flow of traffic.

4.3. Affordability poverty

This type of poverty manifests itself when an individual is not able to afford the cost of journeys, and it forces him or her to below poverty line (Lucas, 2012). A relationship between gender and travel expenditure could be easily seen with gender-based differences in modal choices with women more dependent on expensive modes of transport such as rickshaws and men benefitting from buses and motorbikes. Although this trend increases the cost of travel for women, their need for safety makes them more dependent on private modes and allows them more independence due to the door-to-door service.

Most of the working women avoided public transport due to the embarrassment of reaching work in a dishevelled state through to crowding and lack of cleanliness on buses. Most preferred to pay up to 5 times more for their journeys to look composed and clean on arrival at their place of work, and not feel the social stigma associated with having to use buses. Knowing this, rickshaw drivers set higher fares for women.

4.4. Exposure to transport externalities:

The transport externalities are harmful travel conditions offered by the transport that puts an individual into unsafe, risky and unhealthy circumstances (Lucas, 2012), e.g., air and noise pollution, environmental factors, poor transport legislation and enforcement. Such issues have been considered at some length in the existing literature and were therefore not a main focus of the survey. For example, recent studies have identified how cultural norms regarding dress have been a growing cause for accidents among women seeking more mobility. The traditional long, loose-fitting clothing of women may get tangled in the rear wheel of motorcycles while they sit side-saddle behind the driver (Khan, Yasmin and Khan, 2016). This disadvantage accounts for 97% of clothing-related injuries as reported by the Road Traffic Injury Research and Prevention Centre at the Aga Khan University Hospital in Karachi (Khan et al., 2016:2), occurring in under 45 years of age female pillion riders. This trend is overlooked by transport authorities, planners and policymakers (ibid). Although the structural constraints are faced by everyone, however, women who are already socially marginalised, are thus more disadvantaged.

4.5. Time poverty

Gender division of labour impacts time availability of women, since ‘childcare and housekeeping responsibilities constantly impinge, often reducing mobility and the opportunity to travel long distances and increasing the frequency of trips made’ (Turner and

Fouracre, 1995: 83). Similar effects around isolation due to the expectation that women should spend most of the time on household duties have been found in US state of Ohio (Kwan, 1999) and Australia (Currie and Delbosc, 2010). This feature of time-poverty also emerged from the survey and needs to be incorporated into the existing model of transport poverty.

As women are not able to use motorbikes, they may incur longer journeys which means that they might not be able to easily fulfil their household tasks before and after work. The social and cultural expectation of being the principal carer and homemaker, therefore, has a major impact on women's mobility (Magnusson and Marecek, 2012). This is exacerbated by the restrictions on travelling alone, and late at night. The risk of harming one's reputation was considered more concerning by women than men in the survey, i.e. 40% versus only 10% men. Women were questioned by their family about late-night trips, complained about being treated disrespectfully by the transport staff fellow passengers. Where such trips have to be made, women were dependent on family members to act as a chaperone.

4.6. Sex-based poverty

This form of poverty occurs when people forgo their trips due to the potential annoyances and dangers incurred during travel owing to their gender identity. This forced immobility was mostly experienced by women because of the attitudes prevailing in a male-dominated context, where, although women can work, men still saw this as an exploitation of a women's character. Such attitudes justify the harassment of women, and thus, they are stuck in a vicious cycle of blame and restriction (Khatwani, 2017).

There was a sense of acceptance among all female respondents about the need to be cautious while travelling on public transport. It was shared by many female respondents that long waits on the roadside for buses left them exposed to more harassment. However, instead of

making the streets safer for women, they have been directed to avoid trips by their families. Such attitudes impact women's mobility and require looking at gendered mobility as an expression of cultural relations, imbued in a context. It can be said that a 'gender division of transport is operating which constrains females' mobility, compounds their limited access to transport resources and serves to facilitate the process of their exclusion, both socially and physically' (Dobbs, 2007:89). In other words, such a division fosters the public and private division of space and allows the patriarchal control of females. The female respondents also shared that there is no acceptance on public transport of females who are not clad in traditional dresses (*shalwar kameez*) or covered with veils (*abaya or burqa*). They also found it difficult to share crowded buses since they are filled mainly with men owing to the dynamics of a predominantly male urban space which further fosters the social exclusion of females. Further, most of the public transport is run and operated by men and, private vehicle ownership is also dominated by them.

Survey results demonstrated that there were deeply embedded cultural norms that operated on young women and required them to either stay at home or undertake accompanied journeys. These norms restricted women's mobility to certain approved journeys, which requires teasing out the impact of individual agency on mobility-related decisions too. The purdah system also impacts their activity patterns and affects the mobility choices available to them. Such a strict regime limits mobility choices for women since they have to make sure that their bodies are not exposed, and that they abstain from mingling with men, (e.g. by entering the men's compartment), while men freely occupy the compartment of women. Thus, as declared by Haque (2010: 304), 'the combination of the visible and invisible forms of purdah creates an interconnected web of deprivation, marginalisation and denial-not only of women's rights for self-improvement but also of their roles as agents of change'.

Many women facing mobility issues do not work; and the decisions of those who do, and the jobs they opt for, depend very much on the availability of transport. The survey results also showed that the level of acceptance was even lower when women wanted to make decisions about leisure or socialising as compared to work-related trips. Therefore, for Whitzman (2012: 39) ‘when applying a gendered lens to transport and mobility, it is important to consider the choice in relation to both daily and occasional activities.’ Men are not questioned by their families and may take the relative ease of their mobility for granted, while the survey results displayed that women had internalised that they have lesser autonomy related to making decisions about their social lives, such as going out to meet friends. This result evidences how social power hierarchies at household level shape the decisions of women and how they are deprived of the right to claim control over their lives by their families. This gender exclusion needs to be included in the transport policy-making process, and there is a need to consider more innovative indicators related to their ability to make decisions for undertaking journeys in the study of transport poverty.

5. Conclusion and policy implications

The findings from the survey have been presented using the theoretical framework of transport poverty. Consistent with the literature, the survey has provided insights into the context of Karachi to investigate the variety of factors which contribute to transport poverty for women. It also showed how socio-cultural conditions permeate social life and have a crucial impact on women’s means and modes of mobility. A few previous studies have documented the impact of social restrictions on women’s mobility on their employment, and other opportunities, but the implications of transport poverty on their decision-making has been poorly addressed.

The existing approach to mobility in Karachi is not gender-inclusive, and hence there is a need to allude to the cultural barriers such as the impact of the culturally preferred gendered division of labour and gender power hierarchy on the individual agency to be mobile. Women spend more time and money on transport but do not get any benefits of improved transport such as timesaving, comfortable and safer trips, due to the lack of choice, autonomy to decide, and prevalent social attitudes. Therefore, it is proposed that models of transport poverty should include the social exclusion of women due to constrained decision-making as a factor in the social inequalities in transport. Their lack of agency and decision making related to mobility should be emphasised in models of transport poverty and to understand the additional barriers faced by women. This can be measured by considering women's suppressed participation in activities and increased dependence on others, besides the frequently used measures such as harassment, limited geographical scope, frequency, and accessibility. In Karachi, these hindrances result in women having to undertake prolonged and more complicated journeys than men.

Exploring the social dimension of transport has allowed the emergence of several themes, which can help advance this understanding in the domain of transport poverty, and there can be many useful policy implications of each. For instance, the case of harassment, as alluded to previously, inhibits the movement of women and their daily tasks. Their mobility decisions are strongly influenced by their need to feel safe. This concern is also reinforced by their family members which means that policies and projects need to be designed to reduce the level of unequal access to opportunities. Therefore, instead of introducing reforms for gender equality, there is a much greater need for guaranteeing gender equity through formulating policies and introducing a better service, that can particularly benefit women.

Another example is the way the frequency of trips as well as modal choice for women is influenced by their lack of agency, i.e., the need to have approval from the families and to

travel safely. Since decision-making related to mobility fostered power and confidence, there is a need to curtail the factors that deprive women of their agency. Overall, transport-related social exclusion is not limited to the problems with the public- or private transport and the mobility discourse cannot be confined to only accessibility, proximity and affordability-based measures. The lack of agency dictated by the gender identity of an individual also plays a key role. Thus, in order to understand how the gendered urban culture of Karachi, characterised by gender inequality, exacerbates difficulties for women in using public transport, agency-based indicators need to be incorporated in the model of transport poverty.

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