



Perception of safety in transport use among traders in South Western Nigeria: A case study of Osogbo, Osun State

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Abstract

Studies in global literature have shown gender disparity in the perception of safety and security issues. Its effects on mobility, in particular, have been profound, leading to a dramatic change in travel patterns and changes in the selection and utilisation of modes of transportation. Inequalities across population groups have also been compounded by the effects on the social and economic arenas, with women being one of the most affected groups, which may increase the already well-known gender gap in mobility. This study aims to examine the perception of safety and insecurity among male and female traders, most especially in the use of public and private transport systems in the medium-sized city of Osogbo, Nigeria, with a significant focus on prominent markets in the town. The study used qualitative and quantitative survey methods—data collected was analysed using an Independent t-test and personal interview. Valuable suggestions on how to address mobility inequalities and insecurity amongst traders in urban locations were given.

Keywords: Gender inequalities, mobility pattern, market zones, traders

Introduction

The concept of gender inequality in transport is aimed at reducing inequality of access and mobility between men and women, and this has been well established in literature over the past decade. (Duchene, 2011).



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Introduction

The concept of gender inequality in transport is aimed at reducing inequality of access and mobility between men and women, and this has been well established in literature over the past decade. (Duchene, 2011). There is a need for greater gender sensitivity in urban transport planning, analysis, and practice because mobility and accessibility patterns, as well as the use of transportation infrastructures and means of transport, are heavily gendered. (Peters, 2013). Debate on these patterns becomes necessary in cities and rural regions of both developed and developing nations because women's and men's travel patterns differ, and profound and persistent inequalities characterise these differences. (Peters, 2013; Loukaitou-Sideris & Ceccato; 2020). One of such disparities exists in the issues of transport safety and insecurity. Safety and security are two discrete concepts whose meanings are being contested in literature, as explanations can vary between research disciplines and the reference context. A definition used mainly by transport researchers describes safety as the condition of being protected from danger or harm caused by an unintentional accidental event.

Security, on the other hand, is the state of being protected from threats or damage caused by an intentional criminal act (Coppola & Silvestri, 2021). These explanations have emphasised the need for safety and security as primary requirements of travellers (Van Hagen et al., 2014; Allen et al., 2019), especially when it comes to the use of public transport. This implies that it becomes of foremost importance to ensure adequate safety and security conditions in order to increase the desirability of public transport even before a convenient, efficient, and comfortable service, which is expected by passengers to be guaranteed throughout the whole trip (Frima et al., 2020).

With regards to public transport use, transport safety and security are critical factors in women's mobility choices as it has been generally observed that women use public transport more than men do and may feel exposed to physical aggression, sexual harassment, or other unwelcomed behaviour (Bakran, M, 2018). Hence, International literature has identified harassment as an indicator of personal safety in relation to public transport, indicating that all forms of harassment affect women more than men (Allen. 2016).



Therefore, understanding the factors that influence women's travel behaviour, such as personal security and safety issues on public transport and attitudes to innovative transport technologies, can contribute to the design and implementation of sustainable transport policies that improve gender equality. (Ng, W et al., 2018).

Statement of problem

Trading as an economic activity requires frequent mobility, particularly in the movement of goods from the point of purchase to the final destination. Hence, there is a need for the availability of high-quality and reliable transport networks to all individuals, both in developed and developing nations, to facilitate trading and economic development (Johnson 2016). However, poor transport systems influence different types of people. In sub-Saharan Africa, for instance, women are likely to feel the impact more strongly than men due to gender inequalities (Njenga and Davis, 2003 & Howe, 2003). A growing body of literature on mobility behaviour indicates that women's journeys often have longer durations than men's due to the frequency of trip chaining. Even though women's travel habits are more complex than men's, women use public transportation more than men for similar journeys. (Loukaitou-Sideris & Ceccato; 2020). However, challenges remain for the safety and comfort of women in public transport (Campisi, 2021).

In addition, studies on the mobility patterns of people have also observed that some social groups, usually the vulnerable groups, are more prone than others to have concerns and anxiety about the occurrence of unpleasant events due to a lack of safety or security in travel environments (Coppola & Silvestri, 2020). Therefore, there is a need for a condition of being protected, which usually seems dissimilar from the condition of feeling protected (Coppola & Silvestri, 2020). This creates a gap in the literature between the traders' perceived level of safety and security and the actual level of safety and security, the former being dependent on subjective factors such as socioeconomic characteristics, past victimisation experiences, personal attitudes and travel habits (Coppola & Silvestri, 2021). The aim, therefore, must not be limited to improvement in the actual safety and security but should also be to make travellers feel safe and secure and prevent individuals from having negative and distorted perceptions about transport modes and transit environments. Fear of not being safe and secure affects mobility patterns. For instance, a perception of insecurity could force a trader to adopt some mobility behaviours in contrast with the initial travel decisions they have made.



It is argued that women are more affected by the fear of not being safe and secure than men (Ouali et al., 2020) and, as a result, women more often feel obliged to take precautions that will certainly influence their mobility behaviour (Loukaitou-Sideris, 2014; Vanier et al., 2017), such as avoiding certain times of day, destinations, routes, transport modes, or approaching waiting times with apprehension and anxiety, (Stark, et al, 2018; Abelson et al., 2020). However, other studies on the mobility of people have also attempted to contradict this by suggesting that men partially hide their fears under the guise of strength and masculinity (Sutton et al., 2005). These studies acknowledged that there may be gender differences in the reaction to safety and security measures employed in transit environments. Therefore, despite a large number of articles from different research disciplines, the debate on the existence of gender differences in perceived safety and security among traders is still open. Furthermore, there is still a need for more knowledge regarding the preventive measures, protective provisions, and, essentially, the requirements demanded by women and men so that a public transport environment can be considered safe and secure.

This paper aims to fill the existing gap in research by assessing traders' risk perception within and outside the market, from the point of purchase to the final destination. Furthermore, it intends to differentiate which strategies are most effective in improving the sense of being safe and secure. This study examines the following questions:

1. Do safety perceptions of traders vary by gender?
2. Does the mode of transport affect traders' perception of safety?
3. How does a lack of safety affect traders' mobility?

Significance of the study

This study is based on the premise that the safety, security, productive and reproductive needs of men and women and operational characteristics of public transport partly determine their mobility behaviour and use of public transport. Therefore, it becomes necessary to integrate gender planning and analysis into the operation of public transport as it will foster effective decisions or policy and resource allocations in order to ensure equity, particularly in the Nigerian public transport system.

This study's objective is to examine how male and female traders perceive safety before making travel decisions; it also explores how the various modes of transport affect traders' safety perception and



also discusses how lack of safety affects traders' mobility in a medium-sized city of Osogbo, Osun State, Nigeria.

The hypothesis to be tested is :

- H₀¹ There is no significant difference in the perception of safety and insecurity among male and female traders in Osogbo.

Related literature

Several studies on gender, mobility and safety issues indicate that women experience a unique set of threats, fears, insecurities, and interactions with the urban environment compared to men. (Coppola & Silvestri, 2021). Women are a prime target of violence for several reasons, often because most societies are traditionally patriarchal (ITF, International T. F., 2018). For instance, 66% of female respondents in Chennai, India, stated that they had been harassed while commuting compared to 34% of men (Partheeban 2009). Studies from developing economies come to similar conclusions that a significant disparity exists between the safety and security needs and desires of female passengers and the types and locations of strategies public transport agencies use (Coppola, 2021; Kacharo et al, 2020; Campbell et al., 2019). In cities worldwide, women experience a near-constant fear of sexual violence – harassment and assault while travelling or in public spaces (Korn, 2018). Fear of victimisation and crime is quite widespread among women than men. At the same time, the fear of rape and severe violence from men may lie in the back of many women's minds. Feminist scholars also argue about an existing continuity of violence against women and girls, including intimidation, groping, sexual comments and harassment, threats, and other nuisance crimes with sexual undertones (Mineta Transportation Institute, 2009).

A study conducted in Ethiopia by (Kasharo, Emeret & Tesfaye, 2022,) which included 199 women and girls aged 15-60, demonstrated that 50.8% of women and girls using public transport had experienced at least one violence. The study analysed the safety and security of women and girls in public transport in Ethiopia and corroborated with existing literature on sexual violence. This study identified the most common incidents of sexual violence experienced by women and girls as staring, obscene gestures, making noise, whistling or catcalling, sexual comments or remarks, grabbing, pinching, sexually motivated touching, groping, or rubbing.



In the same vein, a study by Hollaback and Cornell University, which included 16,600 interviews from 22 countries, concluded that 80–90% of women had been harassed in public (Aloul et al., 2019). This study seeks to answer the questions as to whether it is safe and secure for women and girls to travel in public transport in Hawassa city, if there is violence against women and girls in public transport, in what form the violence manifests, and the major contributory factors to this violence in public transport?

Additionally, studies relating to the perception of safety in public transport reveal that gender differences exist in the perception of safety among men and women (Kacharo et al., 2020). These researchers developed statistical models to test for gender differences in the perception of safety and satisfaction in urban metros and buses using large-scale unique customer satisfaction data for 28 world cities over the period 2009 to 2018. Results indicate a significant gender gap in the perception of safety, with women being 10% more likely than men to feel unsafe in public transport. They suggest that the gender gap is more significant for safety than for overall satisfaction, which is consistent with safety being one dimension of overall satisfaction. Thus, the gender gap encompasses more differences in perception of transport between men and women than an intrinsic network of fear. While investigating differences in safety and security perceptions from a medium-sized Italian railway station, the findings of the study suggest that women view train stations as less secure and safe than men do, highlighting a gender disparity that may have a significant impact on the mobility of female passengers. The responses provided by the female respondents suggest that women generally feel more at ease when there are a lot of people around. This is likely because it is thought that there is a lower chance of unpleasant things happening, such as harassment and assault. On the other hand, women are not as positively influenced by the presence of hedges and trees as men because of the perception that such could be a great hiding place for malicious people. (Coppola, P.; Silvestri, F, 2021).

Still, on a similar discourse, the transportation of passengers and freight is considered a critical development area (Kings & Kings et al., 2021). Lack of access to safe transport and other constraints on women's mobility is becoming increasingly recognised as critical barriers to women's educational and workforce participation and broader freedom and autonomy (Clarke 2012; Uteng and Turner 2019). Research from developed and developing regions shows that travel patterns differ between men and women. Women usually have fewer financial means and have less access to private vehicles. They depend more on public transport systems and are more likely to



spend time on slower modes of transport, combine trips and spend more of their journeys on foot (González et al. 2015; Uteng 2019). Research from developing countries indicates that investment in safe public transport positively impacts employment, particularly among the poorest, with emerging evidence suggesting that women benefit to a greater extent than men (Boisjoly, Moreno-Monroy and El-Geneidy 2017; Martinez et al. 2020; Seki and Yamada 2020).

Despite their reliance on public transport, women often report being afraid when using public transport and when moving in public spaces between public transport and their origin or destination. The study by Ceccato and Loukaitou-Sideris 2021; Ding, Loukaitou-Sideris, and Agrawal 2020, observed that women typically face safety concerns in public and private settings that include threats of violence, coercion, and manipulation, as well as concerns about sexual, physical, mental, and financial harm.

Methodology

The study adopted a survey method supplemented by literature in Osogbo, Nigeria. Osogbo is located on latitude 7°46'N and 7.767°N of the equator and longitude 4°34'E and 4.567°E of the Greenwich meridian, and its approximate land area is 2875km². The city is found in the South-Western part of Nigeria along the Osun River. It consists of two Local Government Areas: Olorunda and Osogbo. The city was selected for this study because it is a nodal town linking different states, and it is more easily accessible from any part of the state due to its central position. It is also the state capital city, which accommodates a high inflow of both motorised and non-motorised vehicles and intense commercial activities.

This study adopted the quantitative and qualitative survey methods. The quantitative method employed a questionnaire survey to obtain data from 302 respondents. The qualitative research was obtained from personal interviews of some selected groups of traders in the markets. A pre-field survey was carried out to estimate the number of registered shops within the selected markets. This was essential because there was no proper documentation of the exact population size of traders in the study area. The study adopted the purposive sampling method to choose ten regular markets that accommodate a large population of traders from each category of daily or periodic markets that had a high concentration of commercial activities within the study area. This made it possible to assess the differences in the perception of safety and insecurity among male and female traders in Osogbo.

This study adopted a systematic sampling method to administer the research instrument. The questionnaires were divided into two parts. The first part explored the socio-economic background of respondents. The second part contains some variables on safety and security issues using the Likert scale measurements.

Data obtained from questionnaires were analysed using the Independent T-test. Data gathered from personal interviews were also analysed using the qualitative method of narrative analysis. Narrative analysis helps in finding the fundamental concepts concealed inside stories (Ighomereho, 2021). The goal of the interpretive paradigm perspective is to comprehend how people make sense of their ordinary experiences.

According to Table 1, ten major markets have 3,698 registered shops operating in them, spanning across the two main local governments in the study area.

Table 1: Selected Markets in Osogbo

Name of market	Number of Shops	Proportion % of 367	Proportion sample size
Sasa	1020	27.6	101
Orisunbare	554	14.9	55
Oja Oba	269	7.3	27
Ota-Efun	350	9.4	34
Ayegbaju	150	4.1	15
Oluode	310	8.4	31
Igbona	355	9.6	35
Okebaale	230	6.2	23
Alekuwodo	210	5.7	21
Kajola	250	6.8	25
Total	3698	100	367

Source: Researcher's pilot study 2022

Table 3.2 Population sample for the interview conducted

Markets	Position/status	No of interview
Orisunbare	trader	4
Oja-oba	Trader	4
Igbona	Market leader (Iyalaja)	1
	Female trader	2
	Male trader	2
Alekuwodo	Male trader	2

Author's Fieldwork, 2023



Results and discussion

Socio-Demographic characteristics of the respondents

The results indicate that 34.4% were male traders, and 65.6% were female traders. The majority of male (14.6%) and female (26.2%) traders were found in the age group of 30-49 years. Regarding educational status, it was observed that female traders were more educated than their male counterparts in Osogbo markets. Even though the majority of the female traders (26.2%) were educated at the secondary level compared to 8.3% of their male counterparts, more women (23.2%) than men (16.6%) had a tertiary education. In comparing the monthly income of male and female traders, it was observed that more women (22.8%) earned a higher income (above #35,000) than men (15.2%)—meanwhile, more female traders than males earned <#5000.

The study also indicated that a higher percentage of female traders in Osogbo (39.4%) have no access to private vehicles compared to 18.9% of male traders. This suggests, according to literature, that women have weaker car habits and a more vital obligation to reduce private car use in favour of public transport (Matthies et al., 2002; Okoko, 2007). More female traders (35.8%) than males (16.2%) were observed not to have any household vehicle at all. However, out of those with vehicles, 8.7% of men possess more than two private vehicles as compared to 5.1% of women who don't. In addition, the respondents observed that even though most female traders can drive, they still opt for the use of public transport. Also, most female traders in the study area lack licenses and driving abilities, compared to 13.2% of men who cannot drive. This implies that more male traders possess private vehicles and can drive. According to Asiyabola, (1999), women make more domestic-related non-work trips than men, and walking and public transport are crucial in enabling access to various activity centres. In a household with one car, men dominate the use of the vehicle.

In addition, the study by Adetunji (2012) on gender travel behaviour and women's mobility constraints in Ilesha shows that women make more short trips than men in the city and are less accessible to personal means of transport to commute to different activity centres in the city.

Hypothesis testing

Quantitative results

To test whether there is a significant difference in the perception of safety among male and female traders in the study area, an independent T-test was conducted and summarised in a table

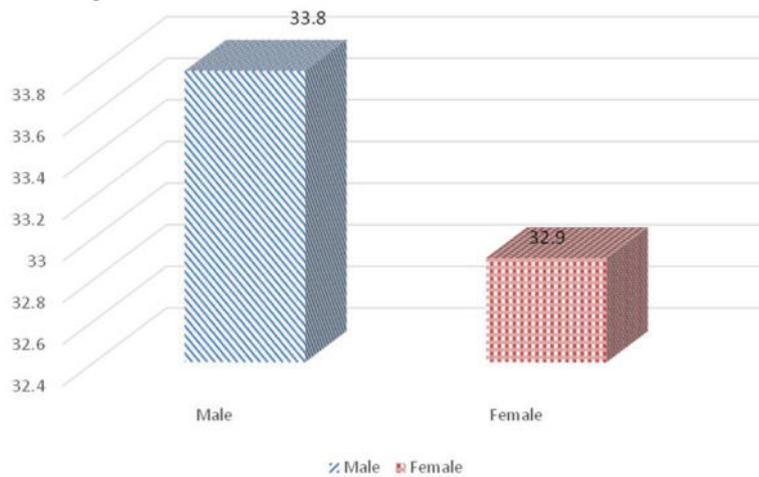
Table 4.34 Independent T-test showing the difference in Perception of Safety based on gender

	Gender	N	Mean	SD	df	t	P
Safety Perception	Male	104	33.80	5.01	300	1.55	> .05
	Female	198	32.90	4.62			

Author's Analysis, 2023

As noted in Table 4.38, there was no significant gender difference in the perception of safety among the traders in Osogbo [$t(300) = 1.55, p > .05$]. By implication, it means that male traders ($M = 33.80, SD = 5.01$) do not differ from female traders ($M = 32.90, SD = 4.62$) when comparing their perception of safety on their routes to the wholesale markets to restock their goods. This result confirmed the formulated hypothesis and the null hypothesis was accepted.

Figure 1 Bar Chart showing the difference in the Perception of Safety based on gender



Author's analysis, 2023

Figure 1 shows the gender distribution of the perception of safety, and it was noted that the perception of safety by both male and female traders was similar. This was such that the male perception of safety ($M = 33.8$) was a little different from the female traders' perception of safety (32.9%). Nevertheless, traders' perception of safety, according to the variables in the Likert scale, indicated that most female traders admitted their condition of helplessness in public transport and also confirmed the findings in the literature that overcrowding is one of the

causes of harassment in public vehicles. For instance, Allen and Vanderschuren (2016) established that acts of harassment happen frequently on public transport. Women use overcrowded public transport and travel long distances. They are most likely to experience harassment, be it verbal or physical, from the men using the same mode of transport.

Moreover, a striking difference is found in the perception that female traders have of modal choices when travelling to get their goods. The choices made by female respondents indicated that women feel more comfortable in transporting their goods using public transport. The result also showed that the presence of people in vehicles, especially on long-distance trips, does not change the perception of safety in women. This is in contrast to findings in the literature that women likely feel more secure and safe in the presence of many people because, in such a situation, the likelihood of unpleasant behaviour decreases.(Coppola, et. al, 2021). Mostly, more women than men are more cautious in selecting their modal choices for long-distance journeys. In addition, the numbers of women who perceived night travel as unsafe and insecure were more than those of men, though a good number of women still travel at night on long-distance journeys to get their goods.

Qualitative Results

The statement about safety by participants indicated that most traders accepted public transport was unsafe, especially when it necessitated that traders travel a long distance to convey goods. In addition, there was a similarity in the responses of traders with regards to sending other traders who traded in the same goods to assist in getting their goods from the wholesale markets in order to minimise incessant travels. A trader of cassava and yam in the Oluode market confirmed.

“ We usually gather money together to give our fellow traders to get the goods for us because of safety and security reasons. Sometimes, we do it in turns. If I travel to get the goods this week, another trader will go the following week. We do this because we usually travel by night and it is a long journey”

Similarly, a large number of female traders perceived that travelling at night was unsafe, while the majority of males saw night travel as a necessity for their type of trade. A male trader in Alekuwodo explained.



" Traveling in the night is all we can do due to the nature of our trade. I sell textile materials and I don't have any option. Sometimes, I travel to the eastern part of the country to get my goods and this require that I spend the night on the road."

A female trader in the Orisunbare market explained that due to the bulky nature of his goods, he usually made arrangements with the sellers in the wholesale markets to send the goods by truck. She said the trucks usually spend days on the road before getting to him; therefore, travelling with the truck and spending nights on the road is risky and unnecessary.

CONCLUSION

In conclusion, it's critical to consider gender while creating new transportation services and technology. This paper discussed the need to consider the mobility needs of traders. It emphasised the need for a more secure public transport system that would accommodate gender planning issues and analysis in the Nigerian public transport system. It also stressed the need for more gendered-based transportation planning and management in the medium-sized city of Osogbo, Osun state.

Recommendation

This study recommends design solutions for female traders such as the following: barrier-free, secure, well-lit public transportation stops, stations, and vehicles; creating locally relevant, cost-effective, safe vehicles and carrying devices for market goods; offering secure parking for these intermediate modes of transportation; and reconsidering transit fare structures to reduce costs associated with the transportation of goods. In order to handle incidents of sexual harassment, bus drivers and bus conductors working in public transportation must complete training. Punitive measures are required to deal with such activities when the driver or conductor themselves are proved to be at fault.

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