

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/325674144>

Gender Differentials in Transportation Characteristics of Students of Tertiary Education Institutions in Ilorin, Nigeria

Article · January 2017

CITATIONS

0

READS

284

2 authors, including:



[Abdulkadir Usman](#)

University of Ilorin

11 PUBLICATIONS 66 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Transport and Rural Development [View project](#)



Urban Development [View project](#)



ISSN-0795-073X

IFE
RESEARCH PUBLICATIONS IN
GEOGRAPHY
Volume 15, 2017

Gender Differentials in Transportation Characteristics of Students of Tertiary Education Institutions in Ilorin, Nigeria

B. A. Usman and O. F. Akinola

Department of Geography and Environmental Management, Faculty of Social Sciences, University of Ilorin, P.M.B. 1515, Ilorin, Kwara State, Nigeria.

E-mail: bolicon2004@yahoo.co.uk

Abstract

Women tend to be exposed to more restrictions in their mobility requirements than men and a lot of evidence from research has shown that there are differences between males and females in terms of the access, usage pattern and burden of transport. This study examines the usage of transport modes, transportation problems and adaptation strategies of male and female students in Ilorin city. A total of 381 students were sampled from four higher educational institutions in the city. The data were analysed using simple percentages, tables, graphs and chi-square statistical technique. Results show that more males (16.7%) than females (9.2%) travel by bus while 28.3% of the females as against 23.3% of the males travel to school by taxi. Magnitude of various transportation problems was also found to differ between the sexes. The difference in modal choice between the males and females was however, not significant at 0.05 level of significance. In addition, the study shows that the male and female students significantly perceive the magnitude of the various transportation problems differently and also significantly differ in their adjustment to these problems. Recommendations include the provision of more on-campus hostel accommodation particularly for female students, provision of more school buses and adoption of separate queues for males and females at bus stops.

Keywords: Gender Differences, Travel Behaviour, Campuses, Transport Modes, Transportation Problems.

Introduction

In every society, there are beliefs and values that place one gender at advantage over the other, thereby promoting gender bias. However, in most cases traditional practices subordinate women and girls in private spheres of life and also influence public affairs of society (Rivera, 2007). The inter-link between gender relations and cultural constraints as it affects the transportation sector has continued to interest researchers

(as seen in the works of Nelson-Fyle and Sandhurf, 1990; Howe and Bryceson, 1993; Fernando and Porter, 2002; Ubogu, 2006; Oni and Okanlawon, 2011). Women tend to face more restrictions in their mobility requirements than men and growing body of evidence from research has shown that there are differences between males and females in terms of the access, usage pattern and burden of transport (Venter *et al.*, 2006). While travel behaviour of individuals irrespective of gender is generally not

uniform, the observed differences in travel behaviour of men and women results from the fact that women are more vulnerable to some travel constraints that influence their travel behaviour. For example, as a result of their generally lower economic status in the society, women are often forced to use less expensive and less desirable transport options (Hanson and Hanson, 1980; Matalon, 1992; Ubogu, 2006 and Okoko, 2007).

The patriarchal social system in Nigeria for instance, ensures that social and cultural stratification barriers exist in the society in favour of the male gender. In recent years, increasing female educational attainment, labour force participation, journey to work and the generally more complex travel patterns characteristic of modern society, have made gender restrictions become very serious impediment to females in terms of ease and flexibility of choice of convenient transport mode. In addition, the practice of *purdah* in predominantly Muslim communities often serves as restraint to women to have access to some modes of transport (Ubogu, 2006). Cultural and other social barriers are therefore, often more significant than physical constraints restricting female access to the transport system (Peters, 1999).

Generally, most transport data collected do not reflect gender based information rather they are usually aggregated in nature. As a result, dearth of gendered statistics on transportation is a major constraint to understanding travel behaviour and provision of gender sensitive solutions (Babinard, 2011; International Transport Forum, 2011). Although, recent years have witnessed increasing research on gender perspective to the study of transport, gender issues are still rarely prioritized in transport planning and investment especially in developing countries. For instance, transport planners in Nigeria mostly assume the universality of usage or preference of transport modes and nature of transport

constraints faced by males and females. This is a wrong notion because, women have less access to time saving transport technologies than men and gender relations often reinforce women's time poverty and external immobility. It is therefore imperative to further understand differences in gender behaviour in terms of modal choice, trip patterns, transportation problems and coping strategies employed. Gender based data on peoples' use of the transport system to access health, education and markets among other facilities are very important for formulating transport policies (Babinard, 2011).

Meanwhile, large educational institutions located within cities usually attract large number of trips and can generate or compound traffic congestion around their vicinity. Therefore, information on travel behaviour of students of such institutions like the modes they use and their trip pattern can provide insight into how they contribute to traffic congestion around such institutions. In addition, students' commuting habit is very important because, it can have implications for their health and motivation for studies (Khan and Mohammadzadeh, 2011). Therefore, the aim of this study is to examine the travel characteristics of students of some tertiary educational institutions in Ilorin city from a gender perspective. It is expected that in addition to adding to knowledge on the travel behaviour, mobility problems and coping strategies of students, this study will help in planning for gender sensitive transport system in the area.

The following are the hypotheses of the study:

- (1) H_{01} : There is no statistically significant difference in the preferred modes of transportation of the male and female students.
- (2) H_{02} : There is no statistically significant difference in the perception of transportation

problems between the male and female students.

(3) Ho₃: There is no statistically significant difference in the coping strategies employed by the male and female students.

Literature Review

Regardless of the fact that urban transport system affects women and men unequally, most empirical and theoretical discussions still assume the universality of women and men's experience (Seagar 1992; Weisman 1992). Since men and women are not equal urban space users and actors, understanding gender requirements is very important in effective policy formulation (Bowlby *et al*, 1989; Townsend 1991). However, as women are rarely represented in decision making they are often unable to impress their needs on planners and as such most transport infrastructures planning are undertaken without considering woman's needs. This is despite the fact that women, particularly in developing countries undertake a greater burden of domestic and commercial activities. Transport is a very important determinant of access to a wide array of essential services and opportunities such as education and employment. Therefore any policy action that helps in meeting women's transportation needs will result in increasing female access to better opportunities and increase their productivity (Hamilton *et al*, 1991). The transport needs of men and women vary and the effects of policy intervention are often to the advantage of the male gender.

Urban transport systems are often more inadequate for women who must combine economic activities with household and family activities. For instance, women's trip characteristics are known to change more significantly over the family life-cycle than that of men. With time female work trips tend to reduce while family related trips tend to increase and this reflects in their travel behaviour (Turner and Fourace, 1995).

Generally, housekeeping and childcare responsibilities negatively affect women's mobility thereby increasing the number of trips they have to make (Skjonsberg, 1989).

Various studies have shown that women in both developed and developing countries have less access to transport facilities. For instance, they depend more on public transport than men. Also, when women make their trips by car many of such trips are as passengers. In addition, a larger proportion of women than men make their trips on foot (Schmink, 1982; Greater London Council (GLC), 1985; Kranton, 1991). As noted by Turner and Fourace (1995) women often opt to walk rather than board heavily loaded buses to avoid the discomfort of men pressing their bodies against them (crush loading) and other forms of sexual harassment. Meanwhile, in many cities across the world girls and women often face the danger of harassment, rape and other forms of personal danger even when they opt to walk due to transport shortages or in an attempt to avoid sexual harassment on public transport (Anderson and Panzio, 1986; Sohail *et al*, 2006; Herrera, 2007).

Studies carried out in Nigeria have revealed that women make more activity trips weekly than men and women depend heavily on public transport. In addition, in households with only one car, men use the car most (Asiyanbola, 1999 and 2002). Also, Odufunwa and Oyesiku (2002) observed that females frequently use motorcycle mode for both short and long distance trips than males. Their study further revealed that the use of motorcycle has significant effects on the pattern of dressing of women.

Odeleye (2001) noted that urban transport planning and development in metropolitan Lagos is more masculine than feminist as women are disadvantaged in terms of access to decent, comfortable and reliable intra-urban transport services. As a result, women are often manhandled, as well as being

victims of pick-pockets and muggers while transiting in the metropolis. As a coping strategy many women are forced to walk long distances or patronize the reckless and ill-mannered commercial motorcyclists at their own risk.

Fear of possible physical and verbal abuse on the streets may force women to take the first available means of transport rather than wait for the most adequate means of transport. Similarly, women using public transport often employ a variety of self-protection strategies and behavioural restrictions, like travelling in groups and keeping away from some places at certain times. The implication is that such precautionary measures result in reduced mobility and underrepresentation of women in certain locations (Rivera, 2007; Babinard, 2011). However, increasing awareness about the need to provide gender sensitive solutions to transportation problems, has led to the emergence of vehicles reserved for “women only” in countries like Japan, Brazil, Egypt and India. Also, some taxis are reserved for women in Mexico, Russia, Dubai and the United Kingdom (International Transport Forum, 2011).

On the other hand, women are known to have a lower rate of pedestrian fatality than men (Downing, 1991), possibly because men often exhibit higher risk taking behaviour when crossing the road (UK, Office for Population Censuses and Surveys (OPCS), 1980). In addition, women have been found to be more predisposed to reduce their trips due to perceived risk of accident connected to a trip (Davis, 1992).

Materials and Methods

Study Area

Ilorin the Kwara State capital is one of the fastest growing cities in Nigeria. The city is located on latitude 8° 30' N and 4° 33' E, within the North Central region of the

country and has an area of about 100km square (Kwara state diary 1997). Ilorin metropolis cut across three Local Government Areas (LGAs) which are Ilorin East, Ilorin west and Ilorin South LGAs. The city is a confluence of cultures, populated by Yoruba, Hausa, Fulani, Nupe, Baruba and other Nigerians and foreign nationals. Though, Ilorin is traditionally a Muslim city there is also a significant Christian population in the area. The city is known for its traditional pottery industry and a thriving traditional textile industry producing high quality hand-woven textiles on simple looms.

Ilorin city is home to two Nigerian universities. These are the University of Ilorin and Al- Hikmah University. It is also a home to four other higher educational institutions: Kwara state polytechnic, Kwara State College of education, Kwara state School of Nursing and Muyideen College of Education, Ilorin.

Data for the study were obtained through questionnaire survey in four higher educational institutions in the city. These are the University of Ilorin, Al-Hikma University, Kwara State Polytechnic and Kwara State College of Education, Ilorin (Figure 1).

With the exception of Al-Hikma University, hostel accommodation is available for students within the school campuses. However, these hostels are grossly inadequate in number and could only accommodate very small proportion of the students. Thus, majority of the students are forced to reside off-campus and transit to these schools from different parts of the city. Both Al-Hikma University and Kwara State College of Education are located within the built-up areas of the city. Various land-uses including residential, commercial and industrial are found around the two institutions.

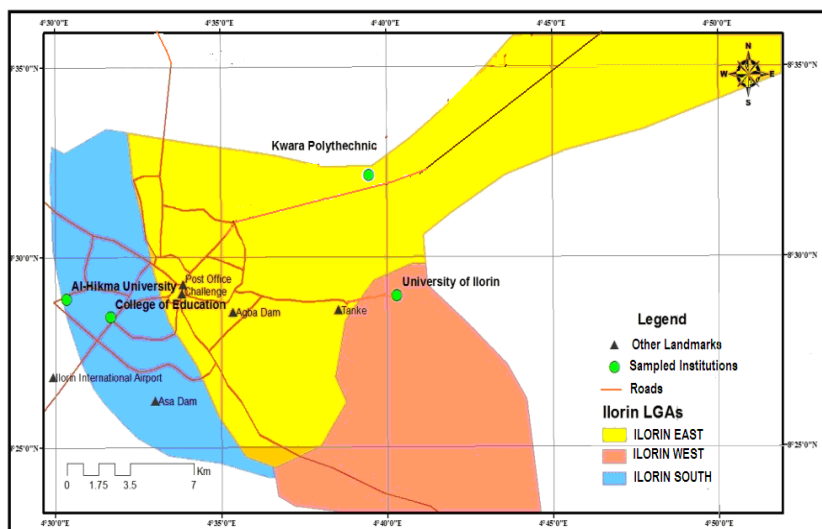


Figure 1: Ilorin showing the sampled Schools
Source: Adapted from Kwara State Ministry of Lands and Survey, 2010

As a result, while these institutions have advantage of good links to different parts of the city, the roads around them are normally highly congested particularly during morning and early evening peak hours. On the other hand, University of Ilorin and Kwara State Polytechnic are situated far from the city centre. Therefore, most of the students reside in the sub-urban areas that used to be separate villages but have been consumed by the expanding city. However, some of the students still commute to school daily from within the city. The three institutions had a combined students' population of 63,148 as at 2013/2014 academic session when the study was conducted.

Data Collection

The sample size was based on the sample size table provided by Krejcie and Morgan (1970) in which any population of up to 50,000 but less than 75,000 has a sample size of 381 at 95% confidence limit and 5.00% margin of error. Questionnaire distribution in the different institutions is shown in Table 1.

The total students' population of the sampled institutions is almost evenly distributed between the sexes as seen in

Table 1. The sampled students who were selected on the basis of their willingness to participate in the survey were also almost evenly distribute on the basis of gender as 191 males and 190 females were sampled for the study.

The data collected were analysed using simple percentages, tables and graphs. The chi-square technique was also used to find out whether there are any significant differences in the transportation characteristics of the male and female students.

Table 1: Questionnaire Distribution in the Sampled Institutions

Institutions	Students' Population			%	Sample Size
	Male	Female	Total		
University of Ilorin	17,523	13,219	30,742	48.7	186
Al-Hikma University	1,715	1,285	3,000	4.8	18
Kwara Polytechnic	7,369	8,311	15,680	24.6	94
College of Education	6,525	7,201	13,726	21.7	83
Total (%)	33,132 (52.5)	30,016 (47.5)	63,148 (100)	100	381

Source: Computed from Field Data (2013)

Results and Discussion

Most (49%) of the respondents are aged between 15 years and 25 years, while 37% are between 26-35 years old (Table 2). Table 2 further shows that 87% of the respondents are single, while the remaining 13% are married.

Mode of Transportation used by the Students

The modes of transportation used by the students for their journey to school were examined. The result shows that 51.7% of the students usually travel by taxis while 25.7% mostly use buses as their mode of transportation to and from school. Bicycle was found to be the least popular means of transportation among the students with only 2.6% using this mode (Table 3). This very low usage of bicycle among the students is expected due to the fact that bicycle use has generally become unpopular in urban areas of the country, particularly in the south. Use of bicycle as a means of transportation is viewed as indicating low class of the user in the society. In addition, roads infrastructure in the city is generally not bicycle friendly

because of the absence of bicycle lanes, dedicated to the use of cyclists.

When examined according to gender, it was discovered that the female students use taxis more than the males while, the males use buses more than their female counterparts. For instance, Figure 2 shows that 28.3% of the respondents who patronize taxis are females compared to 23.3% who are males. On the other hand 16.2% of those who travel to school by bus are males compared to females who constitute just 9.2%

Usage of motorcycle mode is almost equal among both sexes (3.3% for males, 3.4% for females). More of the females (5.0%) also travel by foot compared to 3.3% of the males. Although, buses are cheaper means of transportation, there is tendency for the females to prefer the taxis because of the greater need for physical struggle for seats on the few available buses. In addition, exposure to sexual harassment will be higher on the buses due to the usual congestion, which may encourage lower patronage of buses by the females. Similarly, the fear of sexual harassment on public transport may also be responsible for more of the female students opting to walk to school.

Table 2: Sex, Age and Marital status of the respondents

Characteristics		Frequency	Percent
Sex	Male	191	50.1
	Female	190	49.9
Age	15 – 25 years	187	49
	26 – 35 years	141	37
	36 - above years	53	14
Marital Status	Single	331	87
	Married	50	13
	Divorced	0	0
	Widowed	0	0

Source: Field Survey, 2013

Table 3: Modes of Transportation used by the Students

Mode of Transport	Frequency	Percent
Foot	32	8.4
Taxi	197	51.7
Bicycle	10	2.6
Motorcycle	19	5.0
Bus	98	25.7
Personal Car	25	6.7
Total	381	100

Source: Field Survey, 2013

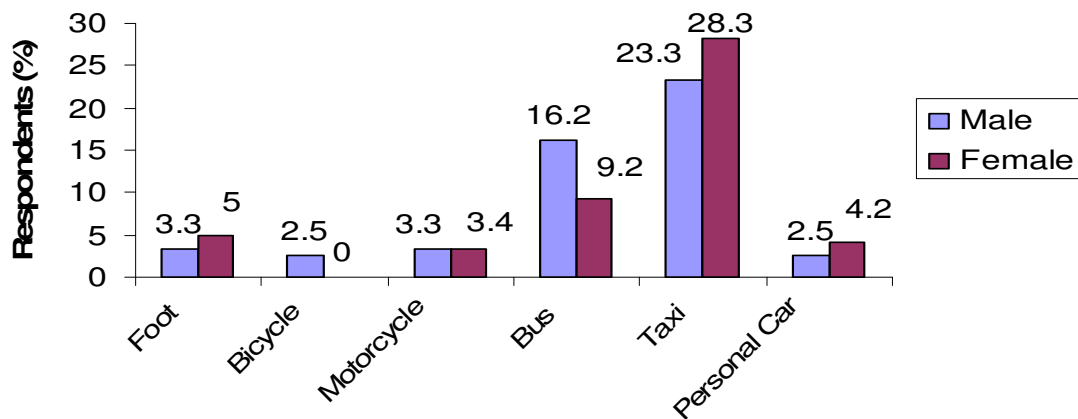


Figure 2: Modes of Transportation used by the Respondents

Source: Field Survey, 2013.

Reasons for the use of Particular Mode of Transportation

The students further indicated the most important reason for their choice of modes of transportation. The reasons for using particular modes of transportation were also found to vary among the students. The reasons given include cost of transport, comfort, speed, safety and availability of mode among others. Availability of a particular mode of transport was indicated as the major determinant of the mode used by 35.9% of the students (Table 4). Speed is regarded as most important by 25.2% of the respondents, while only 6.6% view safety of mode as the major factor determining their choice of mode. In addition, 1.8% of the students indicated that their choice of mode depends on other factors like how urgently they needed to get to school, whether they are travelling alone or in company of friends, the time of the day and the weather condition. For instance, in the hot afternoon, when it is raining or at late evenings the

student would be seen rushing to board any available mode of transport without preference for any particular mode.

When examined according to gender, Table 4 shows that a higher proportion of the males (22.5%) view availability of a mode as being most important, compared to just 13.4% of the female students. In addition, cost of transport is less important to the females because only 7.6% of them consider it as the main determining factor for their choice of mode, as against 11.8% of the male students. However, safety is more important to the females (5.8%) than the Males (0.8%). It could therefore be seen that most of the male students usually travel to school with any mode of transport found available. In the same vein, females view their personal safety as being more important than the cost of transportation. Thus, the females are more safety conscious and are prepared to pay higher transport fares to ensure their personal safety.

Table 4: Reasons for use of Mode of Transportation

Reasons	Students				Total	
	Male		Female		Freq.	Percent
	Freq.	Percent	Freq.	Percent		
Cost	45	11.8	29	7.6	74	19.4
Speed	45	11.8	51	13.4	96	25.2
Comfort	12	3.1	30	8	42	11.1
Safety	3	0.8	22	5.8	25	6.6
Availability	86	22.5	51	13.4	137	35.9
Others	0	0	7	1.8	7	1.8
Total	191	50	190	50	381	100

Source: Field Survey, 2013

Transportation Problems of the Students

Problems identified by the students are parking difficulties, traffic congestion, verbal abuse, physical abuse, long commuting time, public transport

inadequacy, bad roads and long waiting at bus stops. It was observed that enormity of these problems vary among the various institutions. The location of the sampled schools within the city was found to have a significant influence on the magnitude of

each of the identified transportation problems. A general overview shows that long waiting at bus stops (26%) and traffic congestion (21.35%) were identified as the major problems by the students, as seen in Figure 3.

When examined according to the various institutions, long waiting at bus stops is the most notable transportation problems for the

students of both University of Ilorin and Kwara State Polytechnic, as identified by 40% and 30% of the sampled students respectively (Figure 4). This may be explained by the location of both schools in the outskirts of the city. The distance of these schools is a restriction to the number of commercial vehicles operating on these routes.

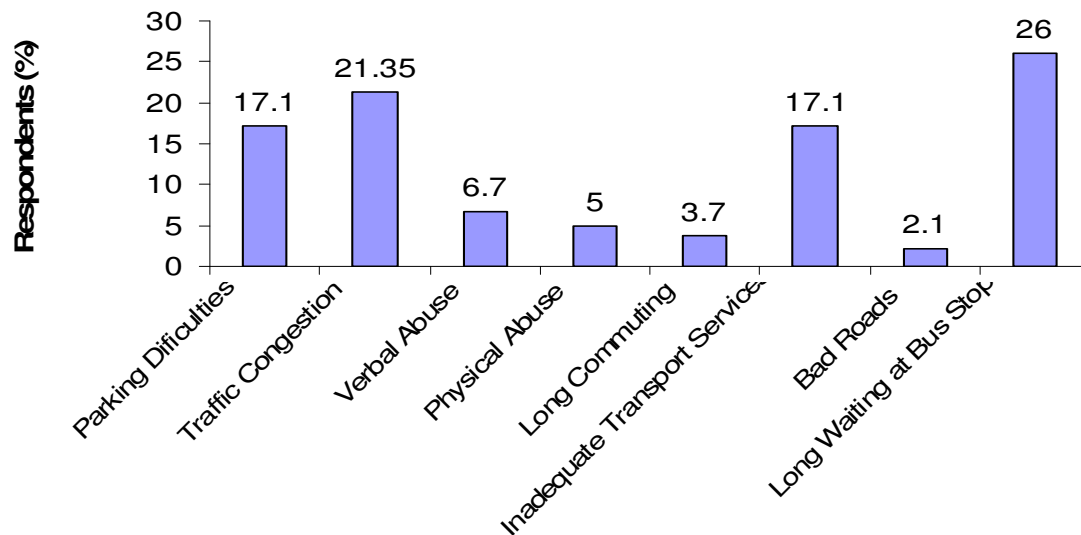


Figure 3: Transportation problems of the students
Source: Field Survey, 2013

This is also clearly reflected in the problem of inadequate transport services as identified by 25.2% of the sampled students of University of Ilorin and 16.4% of the students in Kwara Polytechnic. On the other hand, both Al-Hikma University and Kwara State College of Education are located within the built-up area of the city, within which a wide variety of vehicles operate. However, parking difficulty is regarded as an important problem in both Al-Hikma University (36.4%) and College of Education (24%). This could also be explained by the comparatively smaller land areas of these institutions in relation to

University of Ilorin and Kwara Polytechnic. Apart from the fact that the College of Education and Al-Hikma University are located within the built-up area of the city where there is higher competition for land with other activities, there is problem of poor physical planning in the College of Education. This is particularly reflected in poor design and inadequate provision of vehicle parking areas within the school. Traffic congestion is also an important problem to the students. As seen in Figure 4 the magnitude of this problem is greater for students of Kwara Polytechnic as indicated by 25.2% of the students. This is also an

important transportation problem for students of University of Ilorin and the College of Education, as indicated by 21.6% of the sampled students in each of these schools.

It is however surprising that only a small proportion of the students from both

University of Ilorin (5%) and Kwara State Polytechnic (3.2%) indicated long commuting as a problem. It would be expected that the long distances covered and time required to travel to these schools would be seen as a problem by the students.

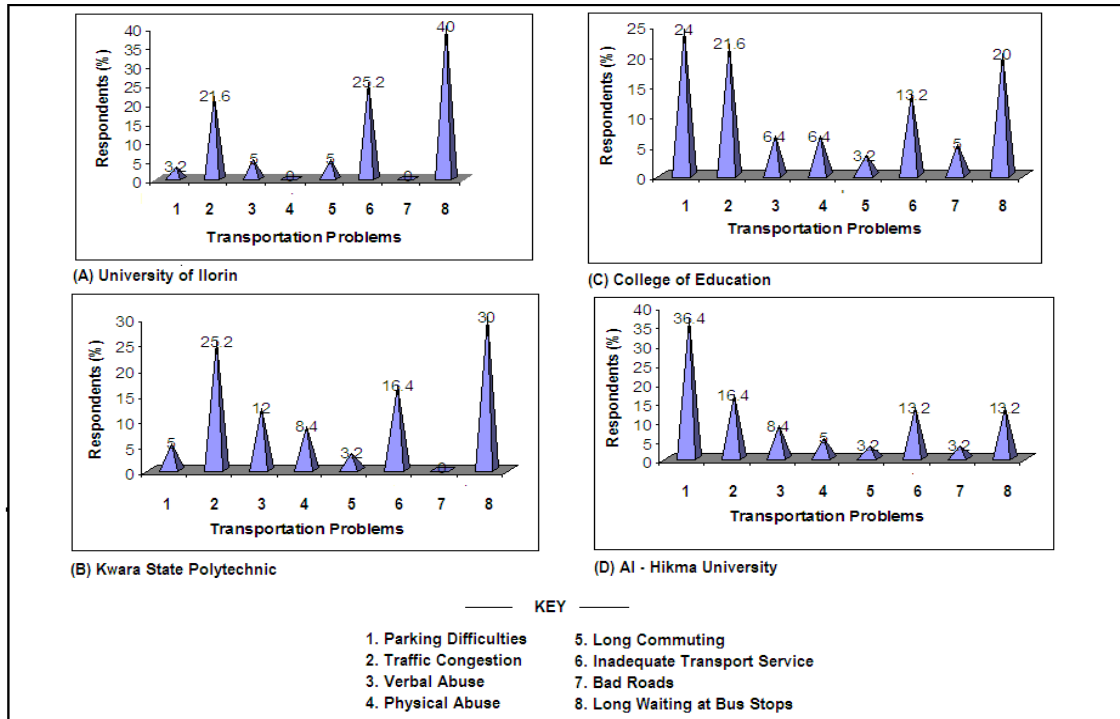


Figure 4: Magnitude of Transportation Problems in the Sampled Institutions
Source: Field Survey, 2013

When examined according to gender it was discovered that the magnitude of these problems as perceived by the male and female students differ. For example, as high as 92.3% of the students who regard traffic congestion as the most important transportation problem are females (Figure 5). Usually, traffic congestion means that vehicles are forced to travel slowly or may even be stationary in traffic for long periods

of time thus, resulting in extended travel time. Traffic congestion therefore implies that longer periods of travel discomfort associated with overloaded buses and taxis have to be endured by the students. In such situations the females are more likely to be uncomfortable from the usual pressing together of bodies and other physical contacts associated with public transport.

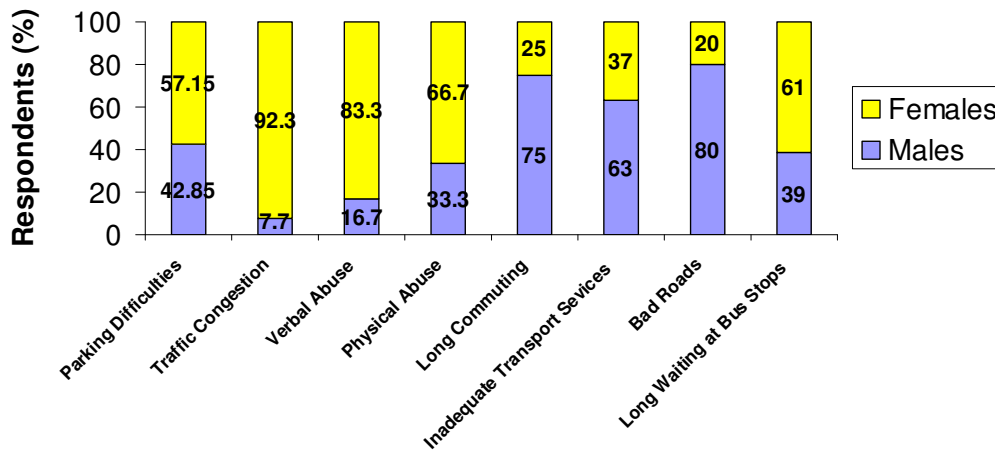


Figure 5: Magnitude of Transportation Problems among Male and Female Students
Source: Field Survey, 2013

Other transportation problems of great significance to the female students as seen in Figure 5 are verbal abuse (83.3%), physical abuse (66.7%) and long waiting at bus stops (61%). The usual long queues at bus stops and regular physical struggles involved in boarding taxi cabs often expose the female students to various forms of harassment. The females are exposed to the discomfort of the male students pressing their bodies against them while struggling to board vehicles or while travelling on buses. Females are also more likely to be the targets of touts, pick pockets and other social miscreants at bus stops and while on-board vehicles especially at night. Therefore, it is not surprising that more females than males regard long waiting at bus stops as a major problem. On the other hand, the males are more concerned than the females with problems of bad roads (80%), long commuting (75%) and inadequate transport services (63%) as also seen in Figure 5. There is therefore a clear indication that unlike the females who are

more apprehensive about issues related to their personal safety, the males are more concerned about general transportation problems.

Coping Strategies employed by the Students

The students employ some strategies to cope with the transportation problems they encounter. Coping strategies such as walking, readiness to pay higher fare, leaving home early among others are employed by the students in solving their transportation problems. As high as 47.5% of the students indicated that leaving home early is the major strategy they employ to ameliorate their mobility problem (Table 5). When they leave home early it is easier to get vehicles to board since there will be fewer number of prospective passengers at the bus stops. In addition, the roads are less congested before the morning peak period, ensuring that the journey will be faster and more comfortable.

Table 4: Coping Strategies of the Students

Coping Strategies	Frequency	Percent
Walking	32	8.4
Readiness to pay higher fare	6	1.6
Travelling in group	23	6.0
Reducing number of trips	114	30.0
Cancellation of trips	25	6.5
Leaving home early	181	47.5
Total	381	100

Source: Field Survey, 2013

Another major strategy employed by the students is to reduce the number of trips made as indicated by 30% of the students. Thus, the students only go to school on those days that they have lectures to attend or only when there are important issues to attend to in school. This implies that the students prefer to study or attend to other things at home rather than go to school on their lecture free days. On the other hand, Table 5 also shows that 8.4% of the students resort to walking to school as a coping strategy.

The particular strategies preferred also vary when examined according to sex of the students. For instance, more of the females (29.2%) compared to 18.3% of the males indicated that they try to cope by leaving home early (Figure 6). It is expected that more of the females will employ this strategy because; this will relieve them of the need to physically struggle for vehicles with their male counterparts during the morning peak period.

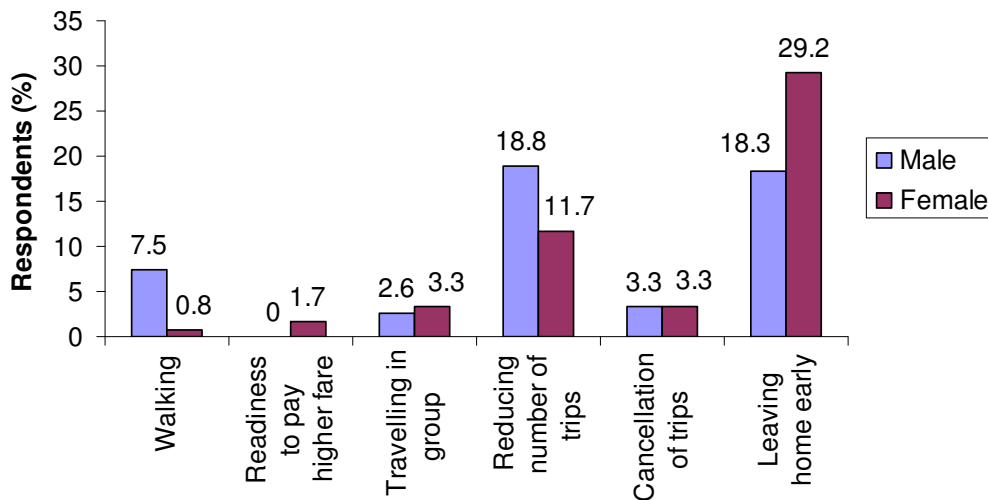


Figure 6: Coping Strategies used by the Male and Female Students

Source: Field Survey, 2013.

Meanwhile, all (1.7%) of the students who indicated that they pay higher fares as a coping strategy are females. This implies that some of the female students incur additional expenses for better comfort and to ensure their safety. However, a larger proportion of those who opt to walk are males (7.5%) while only 0.8% are females. Apart from the physical stress involved, walking may expose the students to risk of being knocked down by vehicles or even expose them to other forms of danger like mugging and sexual harassment especially at night.

This result is in line with the observations of Sohail *et al.*(2006) and Herrera (2007) that girls and women often face the danger of harassment, rape and other forms of personal danger even when they opt to walk. Furthermore, a larger proportion of those who cope by travelling in group are females (3.3%), compared to 2.6% of the males. Travelling in group is a form of security for the female students since it is easier to attack an individual than a group of people.

Test of Hypotheses

Ho1: There is no statistically significant difference in the preferred modes of transportation of the male and female students.

Ho2: There is no statistically significant difference in the perception of transportation problems between the male and female students.

Ho3: There is no statistically significant difference in the coping strategies employed by the male and female students.

The test of significant differences between transportation characteristics and the gender of the students is shown in Table 6.

Table 6 shows that there is no statistically significant difference in the modes of transportation preferred by the male and female students. Thus, the null hypothesis was accepted. However, Table 6 also indicates that the perception of transportation problems by the students and the coping strategies they employed were both significantly related to their gender. The null hypotheses were therefore rejected.

Table 6: Chi-square test of significant difference between transportation characteristics and gender of the students.

Transportation characteristics	X ² cal	df	Critical value	Decision
Mode of transportation and gender	5.094	5	12.591	Accept
Transportation problems and gender	22.650	7	14.067	Reject
Coping strategies and gender	13.286	5	12.591	Reject

X² 0.05 level

Source: Field survey, 2013

Conclusion and Recommendations

Preferences for particular modes of transportation vary among the students both within and between the sexes. Magnitude of transportation problems experienced by the students also vary among the different institutions studied. However, the difference in modal choice between the males and females was found not to be significant. On the other hand, the study shows that the male and female students significantly perceive the magnitude of the various transportation problems differently and also significantly differ in their adjustment to these problems. Based on the result of this study, various gender sensitive policy options for ameliorating mobility problems of the students are hereby suggested.

Immediate provision of more hostel accommodation on the campuses especially for the female students should be embarked upon. This should be a priority particularly for University of Ilorin and Kwara State Polytechnic. This will reduce the number of students residing off-campus, thereby reducing pressure on the transportation system.

A more gender sensitive solution to the students' transportation problems could begin with adoption of separate queues for male and female students at the bus stops. This will reduce the pressure on the female students who are at physical disadvantage when struggling to board vehicles.

References

Anderson, J. and Panzio, N. (1986) Transportation and Public Safety: Services that make Service Use Possible. In Scmink, M., Bruce, J. and Kohn, M. (Eds.) *Leaning about Women and Urban Transport*. Malaysia Sustainable Transport Action Network for Asia and the Pacific.

Both University of Ilorin and Kwara State Polytechnic in particular need to provide more school buses to transport the students. More commercial vehicle operators should also be encouraged to ply the campus routes. This could be done by providing official motor parks both on and off-campus and regular repairs of roads.

Provision of street lights (within and around campuses) and adequate security on the campuses will ensure that students particularly the females can transit within and in areas around the campuses without fear of assault even at night.

To reduce congestion on the roads around the campuses, staff and students who have access to personal cars should embrace the adoption of car-sharing option. This is a traffic demand management option that can help reduce the number of vehicles on the roads around the campuses.

Creation of more access gates to the institutions will help to reduce the daily early morning congestions at the single gates presently used to access these institutions. This will however, result in increased pressure on the schools' security systems.

Construction of more vehicle parking lots would help to address parking problems on the campuses. Authorities of Kwara College of Education Ilorin and Al-Hikma University in particular should see the provision of car parks as a priority that needs immediate attention.

Asiyanbola, R. A. (1999). Women-intra-Urban Travel Pattern: A case study of Abeokuta, Ogun State Nigeria, *Ife social science Review*, 17(2): 62-72.

Asiyanbola, R. A. (2002). Gender Difference in inter- Urban Travel Behaviour: A Preliminary Survey in Ibadan, Nigeria. In Xavier G. and Fatonzoun,

- I.(Eds.) *Urban Mobility for All*. Lisse: A Balkema, The Netherlands. pp. 29- 35.
- Babinard, J. (2011) *World Bank Gender Transport Surveys: An Overview Summary of World Bank Transport Notes*. The World Bank: Washington, D.C.
- Bowlby, S., Lenis J., McDowell, L. and Foord J. (1989) "The Geography of Gender" In Pect, R. and Thrift, N.J. (eds.) *New Models in Geography*, Vol.2 London: Unwin Hyman, 157-175.
- Davis, A. (1992) Liveable Streets and Perceived Accident Risks: Quality of Life Issues for Residents and Vulnerable Road Users. *Traffic Engineering and Control*, 33 (6): 374-379.
- Downing, A. J. (1991) Pedestrian Safety in Developing Countries. Proceedings of the Vulnerable Road User: International Conference on Traffic Safety, New Delhi
- Fernando, P. and Porter, G. (2002) *Balancing the Load: Women, Gender and Transport*. Palgrave: London and New York.
- Greater London Council (GLC) (1985) *Women on the Move 2: Survey Results - Overall Findings*. London: GLC Women's Committee.
- Hamilton, K., Jenkins, L. and Gregory, A. (1991) *Women and Transport: Bus Deregulation in West Yorkshire*. Bradford: University of Bradford.
- Hanson, A. and P. Hanson (1980) Gender and Urban Activity Patten in Upsalla, Sweden. *Geographical Review*, 70: 291-299.
- Herrera, M. (2007) "Sexual Harassment in Public Transport: An Exploratory Study Using a Gender and Development Perspective". Unpublished Master of Arts dissertation, University of Philippines, Diliman, Quezon City.
- Howe, J. and Bryceson, D. (1993) *Rural Household Transport in Africa: Reducing the Burden on Women?* African Studies Center, Leiden, Holland.
- International Transport Forum (2011) *Gender and Transport*. Discussion Paper No. 2011-11
- Kwara State Government (1997) *Diary, 1997*. Kwara State Ministry of Information, Ilorin.
- Khan, M. and Mohammadzadeh (2011) Travel Behaviour of Tertiary Educational Students: A Survey of the University of Auckland.
- Krejcie, R V. and Morgan, D. W. (1970) Determining Sample Size for Research Activities. *Education and Psychological Measurement*, 30: 607-610
- Kranton, R. E. (1991) Transport and the Mobility Needs of the Urban Poor: An Exploratory Study. World Bank Discussion Paper, No. INU 86. Washington D. C. World Bank.
- Matalon, B. (1992) *Mobility with Regards to Social Groups and Attitudes*. Transport and Roads Research Laboratory Reports; 689: 130 – 151
- Nelson-Fyle, M.R. and Sandhu, R. (1990) *The impact of animal traction on Women*. UNIFEM, Dakar, Sénégal.
- Odeleye, J.A (2001) Towards Gender Sensitive Urban Transport Planning and Operations in Metropolitan Lagos, Nigeria. Paper submitted at the 4th IFUP Congress in Marrech, Morroco.
- Odufunwa, B.O and Oyesiku O.O. (2002) Gender Perspectives in Travel Behavior of Motorcycle Passenger in Nigeria Intermediate Cities. In Xavier, G. and

- Fatonzoun, I. (Eds) *Urban Mobility for All*, Lisse: A Balkema, The Netherlands. pp. 13-19
- Okoko, E. (2007) Gender and Transport: Women's Proclivity to Minimize Car use in Akure, Nigeria. *Pakistani Journal of Social Science*, 4(1): 56-63.
- Oni, S. I. and Okanlawon K. R. (2011) Transport Planning in Nigeria: A Plea for Incorporating the Gender Factor. *Journal of Social Sciences*, 29(2): 177 – 182
- Rivera, R.L.K. (2007) Culture, Gender, Transport: Contentious Planning Issues> *Transport and Communications Bulletin for Asia and the Pacific*, No. 76.
www.unescap.org/sites/default/files/chapter1.pdf
- Peters, D. (1999) Gender Issues in Transportation: A Short Introduction. Paper presented at the UNEP Regional Workshop "Deals on Wheels: Sustainable Transportation Initiatives in Developing Countries", San Salvador, July 28-30, 1999
- Schmink, M. (1982) Women in the Urban Economy in Latin-America. Working Paper No. 1. Women, Low-Income Households and Urban Services.
- Seagar, J. (1992) "Women Deserve Spatial Consideration on Geography like no one ever learned in School. In Chens .K. and Dale .S. (Eds.) *The knowledge explosion: Generation of Feminist Scholarship*. London: Athena Series, Teachers College. Pp. 212-224.
- Skjonberg, E. (1989) *Changes in an African Village: Kefa Speaks*. West Hartford: Kumarian Press.
- Sohail, M., Maunder, D.A.C. and Cavill, S. (2006) Effective Regulation for Sustainable Public Transport in Developing Countries. *Transport Policy*, 13 (3): 177-190.
- Townsend, J. G. (1991) Towards a Regional Geography of Gender. *The Geographical Journal*, 15 (1): 25-35.
- Turner, J. and Fourace, P. (1995) Women and Transport in Developing Countries. *Transport Reviews*, 15 (1): 77-96
- Ubogu, A.E. (2006). *Telecommunication and Intra- Urban Trip Pattern in Zaria*. *Transport*, 23(2): 161 -166.
- UK, Office for Population Censuses and Surveys (OPCS) (1980) *Classification of Occupations, 1980*. London: Her Majesty's Stationery Office.
- Venter, .C; Mashiri, M. and D. Bitten (2006). *Engendering Mobility; Towards Improved Gender Analysis in the Transport Sector*. University of Pretoria. Law Press, Press, Pretoria.
- Weisman L .Kanes .(1992) "Designing Differences: women and Architecture". In K. Chens and S. Dale (Eds.). *The knowledge Explosion: Generations of Feminist Scholarship*. London: Athene Series, Teachers College Press, PP. 310 - 320.