EFFECT OF SOCIO-ECONOMIC STATUS ON HOUSEHOLD ALL PURPOSE TRAVEL PATTERNS OF MEN AND WOMEN IN IBADAN, OYO STATE, NIGERIA.

ABSTRACT:

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This study attempted an examination of the effects of socio-economic status on household all purpose travel pattern of men and women in Ibadan, Nigeria.

Three density areas; high, medium and low were purposively selected for data collection. The sample size was determined using systematic sampling method from the total houses in the three density areas. Twenty percent samples of the houses were randomly selected for questionnaire administration on the household head in the study areas. The data collected were analyzed using descriptive and inferential statistics. The analysis of how socio-economic status affects all purpose travel pattern of men and women in the three residential density areas were examined. The relationship that was investigated was the correlation that may exist among pairs of all the variables selected (Age, Education, Occupation, Income, Gender, Household size, Number of vehicles, Frequency of travel, Distance traveled, Mode of travel, Cost of travel and Travel time). Pearson correlation coefficient was used to achieve this.

The study revealed that all purpose travel pattern of men and women in the three density areas studied were affected by their different Socio-economic status. In the high density area, frequency of travel of both men and women were not significantly related to any of the socio-economic variables. In the medium density, age r=-031, income r=0.28, number of vehicles in the household r=0.44 were found to be significantly (p≤0.05) related to frequency of travel of men. The result also showed differences in mode of travels of both men and women and between the density areas. For example, in the high density area, mode of travel of men was significantly related to income r =0.31 (p≤0.05); and for women, age r=0.37, education r=-0.36 and income r=0.31 (p≤ 0.05). In the low density, the corresponding variables that had significant relationships (p≤ 0.05) with mode of travel of men were age r=-0.26, education r=-0.29, occupation r=-0.44 and for women: education r=-0.40, Occupation r=-0.41, income r=-0.50 and car ownership r=-0.45.

The study concluded that socio-economic status has effect on all purpose travel pattern of men and women and that this difference also varied with the residential density areas in Ibadan, the study area.

Keywords; Travel pattern, Socio-economic status, All purpose travel pattern.

1.0   INTRODUCTION

One of the major Pre-requisites of efficient functioning of a city is the facility of movement of people, goods and services quickly and economically. Most activities are achieved through the use of transportation.

Moreover, different households very often have different transport needs. Hanson and Hanson (1981) noted that individuals generate extremely different complex travel activity patterns as they participate in daily life activities at different locations. However, the major difference in the basic travel patterns of men and women in different households are grounded in their different social-economic status.

Men and women very often have different transport patterns and different transport needs. Specifically a number of studies have shown that women have significantly different travel patterns compared to men.

Many scholars have identified many factors to be responsible for the travel pattern of men and women to include; social–economic, socio-cultural and socio-demographic factors. (Hanson and Hanson, 1981; Fadare, 1980, 1992, 1997),

However, Grieco et al, 1989 explained the differences in transport and travel patterns are generated out of the different socio-economic status of men and women which differs from one density area to another.

In line with the above, the main trust of this paper is to examine the effect of socio-economic status on household all purpose travel behavior in three residential density areas of Ibadan. The paper identified the socio-economic status of men and women in the identified residential areas of Ibadan; identified

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the travel pattern of men and women in the density areas and examined the effect of socio-economic status on travel pattern in the density areas.

2.0   Socio-economic status and Travel pattern.

A number of studies have shown that differentials in social-economic status of men and women have effect on their travel behaviour. For instance, Hanson and Johnston (1985) argue that women's shorter commutes are due primarily to spatial and economic factor. Lower average incomes, the location of female-dominated occupations in metropolitan areas and women's greater dependence on public transit.

Also, Rosen bloom and Burns 1994 found that the presence of children and their ages influence the travel patterns of women more than and the younger their children, the less likely working women are to use alternate mode of transportation. Married mother's patterns of comparable men and single working parents' travel patterns are quite different from their married counterparts (Johnston Anomonwo 1989; Rosen bloom 1988, Rosen bloom and Buns 1993).

Furthermore, Heine et al (2001) in his work concluded that children in households and their age affect the distribution of household responsibilities, professional careers, the car availability and ownership and ultimately, travel in a fundamental way. In particular, they argue that after the birth of a child, activity patterns of the parents change while before the birth, travel and activity patterns of men and women are not too different, with the birth of a child, women mainly stop working and take over the maintenance tasks in the households.

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Rutherford and Wekerle (1988) finds men indeed earn much more per mile traveled than women do, but the distance-income relationship varies for different groups of women. When women have access to a car, their rate of income gain per mile traveled is nearly the same as that for men using car. Dublin (1991) investigated the effect of firm decentralization on commuting behaviours, hypothesizing that individuals with more jobs and residential mobility will be able to use decentralization to reduce their work trip length. She finds that women use firm decentralization more effectively than men to reduce their commute time; similar results were found for sales and service workers and those traveling by car (as opposed public transit).From the literature reviewed, it was revealed that men and women have different socio-economic status. Women have lower socio-economic status compared to men and this has effect on their travel behaviours.

3.0 Methodology

The information on which this study is based is majorly from primary sources. For primary data, the high, medium and low residential density areas were selected for data collection. The field survey was carried out in the three density areas namely; High density (Inalende and Oja-ba), Medium density (Mokola and Sango) and Low density (Bodija and Oluyole estates) were purposively selected for Data collection.The sample size was determined by systematic sampling method. Housing samples were taken from each of the density areas. The total houses in the high density are 3,493; in the medium density 3,278 and 4,591 in the low- density areas. One out of every 20th house

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was selected for questionnaire administration in the three residential density areas. Also the primary data were obtained through direct interview technique and through questionnaire administration.

4.0   Data analysis and Interpretation

This study analyzed the effect of socio-economic status on all purpose travel behaviours of men and women in Ibadan. The relationship that was investigated was the correlation that existed among pairs of all the variables identified. (Age, education, occupation, income household size, number of vehicles in the household, frequency of travel, distance traveled, more of travel, cost of travel, travel time). The Pearson correlation was used to achieve this. The correlation between pairs of these variables of gender in low, medium and high density areas are presented respectively. A set was computed for each of the three density areas.

4.1   Bivariate relationships between socio-economic variables and all purpose travel behaviour of men and women in the high density area.

Table 1 shows the result of the Pearson correlation analysis between socio-economic variables (Age, Education, Occupation, and Income, Number of vehicles and households size) and the various elements of travel behaviour (Frequency of travel and time) in the high density areas of Ibadan. It was observed that when socio- economics variables were correlated with frequency of travel of men and women, none of the variables were significantly correlated. This implies that none of socio-economic variables affect the frequency of travel of men and women in the high density areas.

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In the Pearson correlation coefficient of socio-economic variables and the distance traveled by men and women in the high density areas, it was observed that age of men (-0.236*), Income of men (0.434**) and Income of women (0.349**) were significantly correlated at P< 0.05 with distance traveled. This indicates that older men in the high density areas travel shorter distances. Also men and women with high income travel longer distances. That is to say, the higher their income, the longer the distance traveled. This means, age of men, income of men and women are major factors that influence distances traveled in the high density areas.

Table 1 shows the result of correlation of mode of travel of men and women and socio-economic variables. Age of women (0.366**), education of women (-0.361**), Income of men (-0.234*) and Income of women (-0.310**) were significantly correlated at P< 0.05. Age, education, Income significantly affects women's mode of travel while Income is important for the mode of travel of men. In the high density, the relationship between mode of travel and income, education are inversely proportional. It is observed that modes other than personal vehicle will increase as household income goes up. Also, as women in these areas get older, the mode of travel increases from trekking or riding of motor cycles to the use of public vehicles and private vehicles.

Furthermore, cost of travel of men and women in the high density areas is significantly correlated with education of men and women (0.268* and 0.362**), Income of men and women (0.445* and 0.541**), household size of men and women (-0.235* and 0.241*) and number of vehicles in women's households

(0.311**) at P< 0.05. Education, income, household size and number of vehicles in the households significantly affect the cost of travel of women in the high density area. It is observed from the table that the higher the education and income level of men and women in the high density, the more the tendency to use private vehicles and the more the cost of travel.

Finally, travel time is significantly correlated with education of women (0.429**), Income of men (0.432**) and women (0.333**) and the households size of men (-0.218*) at P< 0.05. The travel time of women is influenced by education and income. It is possible that the more educated women tend to look for jobs far from home because of the good income earned often foregoing lesser jobs with poor income that require less travel time and less distance. The travel time of men in the high density is significantly correlated with their income and their household size. The higher their income, the higher their travel time. Also the lesser the house hold size, the higher the travel time, households with small size travel for longer time daily in the density areas.

In conclusion, it can be summarized that variations in the travel behaviour of men and women in the density areas are majorly influenced by their socio-economic status.

Table 1   socio- economic correlates of households all purpose travel behaviour of men and women in high density areas

Travel elements	Age		Education		Occupation		Income		Household size		Number of vehicle	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Frequency of travel	0.007	0.201	-0.067	-0.063	-0.053	0.217	-0.185	-0.017	0.163	0.200	0.098	-0.126
Distance traveled	-0.236*	-0.084	-0.094	0.109	-0.067	0.099	0.43**	0.349**	-0.118	0.135	0.015	0.119
Mode of travel	0.029	0.366**	-0.074	-0.361**	-0.002	-0.157	-0.234*	-0.310**	-0.010	-0.220	-0.036	-0.188
Cost of travel	-0.194	-0.157	0.268**	0.362**	-0.053	-0.020	0.44**	0.541**	-0.24**	0.241**	0.184	0.311**
Travel time	-0.009	-0.219	0.105	0.439**	0.082	-0.083	0.43**	0.333**	-0.22*	0.111	-0.118	0.034

Source: Author's field survey, 2005

*   Significant at 0.05
**   Significant at 0.01

4.2   Bivariate relationships between socio-economic variables and all purpose travel behaviour of men and women in the medium density areas.

Table 2 shows the summary of the Pearson correlation coefficient of socio-economic variables and elements of travel behaviour in the medium density areas of Ibadan.

In the correlation of socio-economic variables (Age, Income, education, Household size and Number of vehicles) and frequency of travel of men and women, it was observed that age of men (-0.312**), Occupation of women (-0.321**), Income of men (0.277*), House hold size of women (-0.256*), number of vehicles of men and women (0.439** and 0.248*) were significantly correlated at P< 0.05. The negative correlation coefficient of age of men, occupation of women income of women and household size of women indicate that the older the men, the lower the trips made. Also women with lower occupation make more trips. This is possibly because women tend to look for jobs (especially lower occupations), that allow them to care for their children and home through shopping, child chauffeuring and so on. All these increase their trips. Also, as the number of vehicles in the households of men and women increase, their frequency of travel also increases. Income also significantly correlates with the frequency of travel. Also, as household size decreases the number of trips of women increases. Therefore, age, occupation, income, household size and the number of vehicles tend to influence the frequency of travel of men and women in the high density.

Furthermore, the distance traveled by women in the high density areas is significantly correlated with income (0.338**, p ≤ 0.01). This shows the higher the income of women in the high-density areas, the further the distance traveled. The distance traveled by men in this density area is not significantly correlated with the socio-economic variables.

Also, in the Pearson correlation of mode of travel and socio-economic variables, age of men (0.276*), education of men (-0.416**), Occupation of men (-o.412), income of men (-0.310**), number of vehicles of men and women (-0.535** and -0.524**) were significantly correlated. Factors that influenced the mode of travel of men in the medium density areas include; age, education, occupation, income and number of vehicles in the Household. The older the men, the more the likelihood that they will use modes other than public transport or trekking. Also the lesser the number of vehicles in the household of women in the high density, the more they go for public vehicles.

Cost of travel is highly correlated with education of women (0.294*), occupation of men (-0.304**) and number of vehicles in women's households (0.271*) at P<0.05. According to the table, it can be observed that cost of travel of men in the medium density is determined by occupation, while for women it is determined by education and number of vehicles in the households. Also from the table, the higher the occupation, the lower the cost of travel of men in the medium density. This is so because many of the men having higher occupations have official vehicles and drivers and this is being maintained by their office, thus reducing their cost of travel. For women in these density areas, the more

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educated the women, the more their income and the more the number of vehicles in their households and this otherwise increase their cost of travel.

Finally, travel time of men and women in the medium density areas are determined by their age (0.305** and 0.303*, P<0.05). From the table, the older the men and women, the more the time spent on travel. This is because they tend to be more careful and therefore take their time when traveling.

Table 2 Socio-economic correlates of households all purpose travel behaviour of men and women in medium density areas.

Travel elements	Age		Education		Occupation		Income		Household size		Number of vehicle	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Frequency of travel	-0.312**	-0.207	0.132	0.040	0.198	-0.321**	0.277*	-0.160	0.009	-0.256*	0.439**	0.248*
Distance traveled	0.123	0.169	0.076	0.159	-0.095	-0.035	0.203	0.338**	0.112	-0.205	0.133	0.044
Mode of tssravel	0.276*	0.180	-0.416**	-0.117	-0.412**	-0.163	-0.370**	-0.100	-0.172	0.127	-0.535**	0.524**
Cost of travel	0.114	0.157	-0.031	0.294*	-0.304**	-0.145	0.120	0.160	0.125	-0.029	0.040	0.271*
Travel time	0.305**	0.303*	0.029	0.192	0.132	0.074	0.045	0.150	0.128	0.045	-0.161	0.149

Source: Author's field survey, 2005

* Significant at 0.05

** Significant at 0.01

4.3   Bivariate relationships between socio-economic variables and all purpose travel behaviour of men and women in the low density areas.

Table 3 shows the summary of Pearson correlation coefficient of men and women in the low density areas of Ibadan. Socio-economic variables were correlated with travel patterns of men and women to get factors that influence travel behaviour of men and women in the low density areas.

In the Pearson correlation coefficient of socio-economic variable and frequency of travel of men and women in the low density areas, it was shown that men's occupation (0.288**), Income of men (0.212*), household size of men (0.242*) and number of vehicles of men (0.208*) were significantly correlated with frequency of travel at $P<0.05$. The higher the occupation level, household size, income, and number of vehicles in the household of men in the low density area, the higher the number of trips made daily. This implies that occupation, household size income and number of vehicles in the household determines the frequency of travel of men in the low density, while none of the socio-economics variables affect the frequency of travel of women in this density area.

Also, the distance traveled by men and women in the low density is not significantly correlated with any of the socio-economics variables. This implies the distance traveled by men and women in the low density areas is not influenced by any of the socio- economic variables.

Furthermore, in the Pearson correlation of mode of travel and socio-economic variables, age of men (-0.255*), education of men (-0293**), education

of women (-0396**), occupation of men and women (-0.253* and –0.406**), Income of men and women (0.371** and –0.498**), number of vehicles in the households of men and women (-0.438** and –0.451**) significantly correlated at P<0.05. The mode of travel of men in the low density is determined by their age, education, occupation, income and number of vehicles while mode of travel of women is determined by education, occupation, income, household size and number of vehicles in their household.

Cost of travel of women in the low density is determined by their income (0.268*) and number of vehicles (0.273*p≤ 0.05). This suggests that the more the women's income and number of vehicles in their households the more the cost of travel.

Finally, travel time is significantly correlated with income of women (0.275*) and number of vehicles n women's household (0.382**) at P<0.05. This implies that travel time of men is not influenced by socio-economic variables while travel time of women is influenced by income and number of vehicles in the households. This suggests that the more their income and number of vehicles in the household, the more time they are ready to spend on travel. This is because increase in income allows them the opportunity of owning vehicles and there by reduce car pooling and in the long run increase travel time.

Table 3 Socio-economic correlates of households all -purpose travel behaviour of men and women in low density areas

Travel elements	Age		Education		Occupation		Income		Household size		Number of vehicle	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Frequency of travel	0.142	0.057	0.096	0.160	0.288**	-0.101	0.212*	0.231	0.242*	0.162	0.208*	0.096
Distance traveled	0.003	0.147	0.184	0.136	0.076	0.039	0.109	0.236	-0.047	0.032	0.079	0.203
Mode of travel	-0.255*	-0.098	-0.293**	-0.396**	-0.253*	-0.406**	0.371**	-0.498**	0.002	0.172	-0.438**	-0.451**
Cost of travel	-0.096	-0.096	0.159	0.087	0.134	-0.060	0.127	0.268*	-0.030	-0.153	0.129	0.273*
Travel time	-0.162	-0.057	0.107	0.123	0.148	-0.163	0.090	0.275*	0.040	-0.040	0.003	0.382**

Source: Author's field survey, 2005

*Significant at 0.05

** Significant at 0.01

5.0 CONCLUSION AND RECOMMENDATIONS

The results showed that socio-economic status of men and women in different households have effect on their travel pattern and these variations are further shown across the density areas of Ibadan. The planning implication of this study o will help in raising awareness among policy makers and planners and ensure that socio-economic status of men and women is put into consideration in planning and policy making and also, women must be represented in participatory planning.

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