DISCOVERY

57(306), June, 2021

Gender differential in mobile phone use and travel behavior

Ajani Oludele Albert[1], **Fakunle Sunday Olutayo**[2]

To Cite:
Albert AO, Olutayo FS. Gender differential in mobile phone use and travel behavior. *Discovery*, 2021, 57(306), 519-529

Author Affiliation:
[1]Senior Lecturer at Department of Sociology and Anthropology, Obafemi Awolowo University, Ile-Ife. Nigeria; Email: deleajani@gmail.com
[2]Online Instructor and PhD Student, Department of Sociology and Anthropology, Obafemi Awolowo University Centre for Distance Learning, Ile-Ife. Nigeria; Email: sunnyfak@gmail.com

Peer-Review History
Received: 23 April 2021
Reviewed & Revised: 24/April/2021 to 26/May/2021
Accepted: 27 May 2021
Published: June 2021

Peer-Review Model
External peer-review was done through double-blind method.

ABSTRACT

The main thrust of this research work was to unveil the effect of globalisation on gender equality as one of the sustainable development goals by examining gender differences in mobile phone use. The specific goal of this research work was to adopt sociological approach to assess the influence of mobile phone use on frequency of trips made on selected social activities among men and women in Ile-Ife, Southwestern Nigeria. The study was carried out in the 11 political wards of urban centre of Ile-Ife. The quantitative primary data was sourced from 330 active adults who were purposively selected as the sample size. The ages of these adults range from 35 years to 50 years. In addition, the qualitative primary data was sourced 22 adults (11 males and females respectively) who were purposively selected for in-depth interviews. Contents analysis and descriptive statistics were used to analyze the qualitative data and the quantitative data respectively. This study found gender equality in mobile phone use as more women (55 per cent) used mobile phone for business/work than men (45 per cent); also by use of mobile phone use, more women (41 per cent) had an increase in religion trips than men (40 per cent); more women (40 per cent) had an increase in trips made on visitation to friends/relatives than men (36 per cent), mobile phone use had also generated an increase in trips made on educational purposes for more women (44 per cent) than men (33 per cent). However, this study further found that mobile phone differently influenced the frequency of trips which both gender made on the selected social activities in the study location. Finally, this study concluded that mobile phone use has advanced integrating women into globalisation and thereby promoted gender equality to a certain extent.

Keywords: Sustainable Development Goals; Mobile Phone Use; Gender Difference; Travel Behaviour

1. INTRODUCTION

Technological breakthroughs have launched mobile phone use in interpersonal communication and this has significantly aided physical movement and increased social interaction of people. Among men and women in Nigeria, mobile phone use has become all-pervading and is playing a significant function in their life. For instance, mobile phone has aided in technological effectiveness, innovation and further supported social and organizational innovation as both genders have access to useful information through their mobile phones.

In many advanced countries, mobile phone use contributes significantly in gender empowerment (Ling, 2001) participation (Mckenna and Bargh, 2000) and encourages equitable power relations (Shade, 2007). Moreover, studies show that,

in many both advanced and developing countries, mobile phone helps in distribution of social capital and extension of social relation (Smoreda and Licoppe, 2000), strengthening social cohesion and sustain social relationship among people (Pettigrew, 2009), flexible working arrangements between employers and their employees (Ogunbodede, 2010), self-employment (Scott, McKemyey and Batchelor, 2004) contingent arrangement and conference-calls (Ling, 2000) and other social activities.

Studies established extension of gender equality to mobile phone use asserting that mobile phone use is no longer dominated by the male gender as it was when the technology was first introduced (Huyer, Hafkin, Ertl and Dryburgh, 2008; Li and Kirkup, 2007; Lemish and Cohen, 2005; Skog, 2002; Ling, 2001; Bimber, 2000). Moreover, Adeoye (2001) explained that gender is not significant as a factor influencing mobile phone use among both male and women traders. He further asserted that the rationale behind more woman phone users in the contemporary era is because woman traders have higher need to coordinate their business alongside family and social affairs than their male counterparts do. Studies have recommended a future work which would further probe gender differences in reported phone usage (Caria, 2010; James and Versteeg, 2007; Adeoye, 2001).

As achieving gender equality and empowering all women and girls is among the 17 the Sustainable Development Goals (SDGs) that the countries of the world aim to achieve by 2030; thus, the growing interest of international agencies and organisations, government of each country as well as Non-Governmental Organizations in women empowerment, participation and gender equality in the sphere of technology is the major thrust of this paper. However, the specific purpose of this research work was to employ a comparative approach to assess the influence of mobile phone use on the trips which men and women made on selected social activities.

Literature Review

According to Adams (2000), "mobility works in conjunction with social interactions in human society as also the social network serves as the basis for mobility. This is to say that mobility in human society is a component of social interaction. According to Ogunbodede (2010), stress related problems inherent in relying on trekking and use of animal power for transport had led to main improvement in classical times derived from the construction of roads. Moreover, industrial revolution marked the beginning of great improvement in transportation and this brought about invention of steam engines, ships, motor-cycles, fast-moving vehicle, and airplane all of which make transportation easy, comfortable and fast (Salomon, 1996).

Transportation options have improved over the years, with the greater availability of better and faster vehicles to travel longer distance; this has increased people's mobility (Mokhtarian, 2009). Moreover, Ajani XE "Ajani" and Fakunle XE "Fakunle" (2018) and Adeoye, (2001) found that in Nigeria, travel had become more affordable through lower prices and the improved economic circumstances of many people, except in the recent when the removal of subsidy caused expenses on travel to increase.

Need for Physical Mobility and Patterns of Trips

A variety of reasons have been adduced for physical movement of people from one place to another. For instance, Junco, Merson and Salter (2010) explained that people consider the desirability of a place based on its social, economic, or environmental situation. Muhammed and Tomonori (2009) explained that people often consider the availability of superseding advantages in a particular location and this prompts people to relocate to where such advantages exist. There exist other several factors which social researchers have identified as potential cause of people's movement in a city.

According to Olatunji (2020), trade is among human activities that have been in existence for ages; therefore, trade an economic factor that generate geographical movement of people from one location to another. Earlier, Elujoba (2012) observed prevalence of ceremonies in African communities. Ceremony brings people living in different locations together and thereby calls for mobility. Ogunbodede (2010) explained that people made visitation to their relatives that are living in both near and remote places; moreover, he observed that festivals and religious activities generate the convergence of worshippers and participants from various places.

The quest for knowledge has been identified by Scott, McKemyey and Batchelor (2004) as one of the factors for physical movement. They explained that journeys made on educational excursions and research trips are in this category. Also, provision of infrastructure facilities, such as centres for health-care, lucrative jobs, employment opportunities and enactment of law to banish or restrict people from or to a certain location are among the political factors that are potential factors that prompt geographical movement of people (Olatunji, 2020).

Mobile Phone Use in Nigeria

Many regions in Africa have experienced increase in mobile phone access (Ajani XE "Ajani" and Fakunle XE "Fakunle" , 2018; Scott *et al*, 2004). Studies found that in many developing countries, mobile phone use has gone beyond being a luxury reserved for the

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS

rich as people even in the most remote rural communities as well have access to mobile phone (Zulkefly and Baharundin, 2009; Omotayo, Yifeng and Shyam Sundar, 2008; Adeoye, 2001). Ogunbodede (2010) noted that in early twenty-first century, deregulation of Nigeria telecommunication market together with the enabling environment that Nigerian Communication Commission (NCC) made available have generated an astronomical increase in the number of mobile operators which eventually facilitates the greater attainment of mobile phones by the people in the country (Ogunbodede, 2010). However, several studies have found that women, in developing countries have less access to technology than men; this disparity extends to mobile phones which is the commonest technology in contemporary era (James and Versteeg, 2007; Ling, 2001), while other studies have established that there was no significant difference in mobile phone ownership of both gender, rather mobile phone ownership is gender neutral (Shade, 2007; Smoreda and Licoppe, 2000). They further claimed that mobile phones are increasingly affordable for women and girls in developing countries and this has significantly help increase gender equality in mobile phone use in particular and technology in general thereby closing the gender gap in mobile phone ownership.

Mobile Phone Use and Travel Behaviour

Mobile phone is among the latest in a series of technological advances that have changed the world in fundamental ways (Ling, 2004). Ajani XE "Ajani" and Fakunle XE "Fakunle" (2018) as well as Manceron (1997) asserted that the main reason people use mobile phone is to communicate with other people and the principal reason which makes people send messages on mobile phone to others is to maintain interpersonal relationships. Mobile phone use is likely to have a significant impact on social life, but there remains extensive discrepancy as to the nature and value of this impact. This has led to evolvement of a variety of empirical and theoretical analyses showing patterns of travel behaviour via mobile phone use. Mokhtarian (2009) suggested that the bearing that mobile phones have upon the way man organizes and manages travel behaviour and the way ICTs can influence actual patterns of travel must be evaluated.

In contemporary period, there are inconsistencies in studies carried out to establish gender gap in mobile phone use. While several studies asserted gender equality in mobile phone use as more women compete with their men counterparts in using modern technology such as mobile phone (Shade, 2007; Smoreda and Licoppe, 2000), some studies found that men still dominate the helm of this technology, claiming that there is preponderance of men in technology schools than women; and men are easy picking up and playing with ICT gadgets including mobile phone, as women were generally happy to look for their entertainment elsewhere (James and Versteeg, 2007; Ling, 2001). Some scholars found that more women use mobile phone than men because women are more attached to their relatives and family members than men as mobile phone could be useful to maintain social connectivity (Lemish and Cohen, 2005; Wajcman, 2004; Skog, 2002; Rakow and Navarro, 1993) and more women are getting used to modern technology unlike before where only men dominated the helm of technology (Shade, 2007). However, previous studies abound observing the gender disparity in technology use in terms of mobile phone ownership and accessibility. The current study aimed at probing gender differences in mobile phone use by adopting sociological approach to examine influence of mobile phone use on frequency of trips made on selected social activities among men and women in the study location.

2. METHODOLOGY

Mixed methods were adopted. The current study also adopted cross-sectional design. Multi-stage sampling method was used in this study. The urban center of Ile-Ife was first divided into 11 sectors according to the existing electoral wards, while 30 people were purposively selected from each of the wards; therefore, the quantitative primary data was sourced from the grand total of 330 active adults who were purposively selected as the sample size. The ages of these adults range from 35 years to 50 years. In addition, the qualitative primary data was sourced from 22 adults (a male and a female form each of the 11 electoral wards) who were purposively selected for in-depth interviews. The primary data needed was gathered using in-depth face-to-face interviews (IDIs) and questionnaire that consisted of both structured questions and unstructured questions on socio-economic characteristics of the residents that were mobile users, their accessibility to mobile phone and influence of mobile phone use on their trips on social activities. Contents analysis and descriptive statistics were used to analyze the qualitative data and the quantitative data respectively.

3. FINDINGS

Accessibility to mobile phone ownership and major constraints on mobile phone use

The current study established that about half of both the men and women found mobile phone ownership very easy while almost 47 per cent and 42 per cent of men and women respectively claimed that the ownership was easy. However, almost 2 per cent of

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS

men and about 1 per cent of women found the ownership hard. High tariff by the telecommunication service providers was mostly cited as a challenge by the respondents as about 37 per cent of men and almost 36 per cent of women respectively have identified followed by almost 30 per cent and 29 per cent of women and men respectively that identified poor network service as the major challenge. Therefore, the data indicated that economic factor was the major challenge which most of the respondents have in using mobile phones, followed by poor network service. This outcome also suggested that the service delivery should be improved to enhance respondents' accessibility to mobile phone. However, almost 27 per cent of women and about 19 per cent of men complained of theft while about 16 per cent of men and about 7 per cent of women identified frequent technical faults which their mobile phone developed as the major challenge (see Table 1).

Table 1: Accessibility to mobile phone ownership Major constraints on mobile phone use

Mobile Phone Ownership by Gender					
Sex	Very easy	Easy	Hard	Very hard	Total
Male	104 (63.0%)	57 (34.5%)	0 (0.0%)	4 (2.4%)	165 (100.0%)
Female	79 (47.9%)	72 (43.6%)	8 (4.8%)	6 (3.6%)	165 (100.0%)
Total	183 (55.5%)	129 (39.1%)	8 (2.4%)	10 (3.0%)	330 (100.0%)
Challenges Encountered in Using Mobile Phones by Gender					
Sex	Theft	High tariff	Frequent technical fault	Poor network service	Total
Male	31 (18.8%)	61 (37.0%)	26 (15.8%)	47 (28.5%)	165 (100.0%)
Female	45 (27.3%)	59 (35.8%)	12 (7.3%)	49 (29.7%)	165 (100.0%)
Total	76 (23.0%)	120 (36.4%)	38 (11.5%)	96 (29.1%)	330 (100.0%)

Source: Author's Field Survey (2020).

Table 2: Mobile phone and getting direction to new location

Use of Mobile Phone to locate new or unknown Places			
Sex	Yes	No	Total
Male	107 (64.8%)	58 (35.2%)	165 (100.0%)
Female	110 (66.7%)	55 (33.3%)	165 (100.0%)
Total	217 (65.8%)	113 (34.2%)	330 (100.0%)

Number of times Mobile Phone Usage helped to locate unknown Places					
Time Frequency	1-5times	6-10 times	11-15 times	16-20 times	21 and above
Sex					
Male	36 (34.3%)	12 (11.4%)	0 (0.0%)	4 (3.8%)	53 (50.5%)
Female	57 (52.8%)	13 (12.0%)	3 (2.8%)	2 (1.9%)	33 (30.6%)
Total	93 (43.7%)	25 (11.7%)	3 (1.4%)	6 (2.8%)	86 (40.4%)

Source: Author's Field Survey (2020).

Mobile phone and getting direction to new location

In using mobile phone to get the direction to locate new places, about 67 per cent of women and 65 per cent of men respectively reported to have found their ways in new locations with the aid of mobile phone. Also about half of the men involved in the current study indicated that mobile phone has aided in getting direction to new places more than twenty times since they have owned mobile phone while more than half of women in the study stated that mobile phone has aided them for almost five times. This study showed that, in the study location, mobile phone has assisted its users to locate new places (see Table 2). Moreover, the qualitative data explained that majority of the informants admitted that mobile phone had aided them to locate unknown places in recent times. This was possible because mobile phone helped to contact people in those unknown places to guide their movement.

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS

Extract 1: IDI/Woman/52 years/Self-employed/June, 2020

"Of course, mobile phone has helped me to contact people who had already known a place I did not know. In fact, this situation happens a lot on the trips I make on my business and to get new customers to distribute my goods and render my services."

Extract 2: IDI/Man/35 year/Civil servant/June, 2020

"Yes, in fact in many cases I can precisely remember, mobile phone has aided in locating many new places because my phone has a function that serve as a map to trace any location."

Frequency of Trips on Social Activities and Mobile Phone Use

The current study considered four possible categories of the influence which mobile phone use could have on the trips which respondents made on few selected social activities. These were Reduction influence, Increase influence, Ambiguous influence (being unsure to determine the actual or net influence), and No influence (Neutral influence). The study examined social activities that called for more use of mobile phone and found that business/work was more pronounced among the respondents. . Almost 55 per cent of women and 45 per cent men respectively used mobile phone for business/work more than other purposes followed by about 32 per cent of women and 24 per cent of men respectively that claimed to use mobile phone to maintain contact with members of their family and friends more than other purposes.

These findings depicted the impact of globalisation as women have also imbibed the culture of using mobile phone in their business activities and to challenge the popular belief in Africa that men are only the bread winners of the family. Moreover, the study revealed that more women used mobile phone to maintain relationship with their relatives more than men; however, more men (24.2 per cent) were found using mobile phone on educational purpose than women (21.5 per cent) in the study (see Table 3).

Table 3: Frequency of Trips on Social Activities and Mobile Phone Use

Social Activities that call for more Use of Mobile Phone				
Sex	Relatives/Friends	Business/work	Education	Total
Male	39 (24.2%)	72 (43.6%)	40 (24.2%)	165 (100.0%)
Female	53 (32.1%)	89 (55.3%)	33 (20.5%)	161 (100.0%)
Total	92 (28.2%)	161 (49.4%)	73 (22.4%)	326 (100.0%)

Source: Author's Field Survey (2020).

Table 4: Mobile phone use and trips on religious activities

Influence of Mobile Phone Usage on trips made on Religion Purpose					
Sex	Reduce	Increase	Ambiguous	No influence	Total
Male	36 (21.8%)	67 (40.6%)	8 (4.8%)	54 (32.7%)	165 (100.0%)
Female	22 (13.3%)	68 (41.2%)	10 (6.1%)	65 (39.4%)	165 (100.0%)
Total	58 (17.6%)	135 (40.9%)	18 (5.5%)	119 (36.1%)	330 (100.0%)

Source: Author's Field Survey (2020).

Mobile phone use and trips on religious activities

As indicated in Table 4, the findings showed that, via mobile phone use, increase effect was more pronounced in the frequency of trips made on religious activities. About 41 per cent of women and 40 per cent of men respectively claimed an increase in the trips, and almost 39 per cent of woman and 33 per cent of male that declared no change in their trips. However, almost 22 per cent and about 13 per cent of men and women respectively claimed that their religious trips were reduced via mobile phone use. In essence, their religious trips had increased in recent times. However, as a compliment to the survey of the current study, two (a male and a woman) informants opined that their religious trips reduced because some of their religious activities took place on mobile phone.

Extract 3: IDI/Woman/45 years/Christian/June, 2020

"Some of my religious trips were cancelled through mobile phone use. For instance, we were supposed to go for prayers on a mountain but I was told to wait because the programme did not hold. Also, there was a day my son was sick in the midnight, the Pastor, instead of coming, prayed for him and God did it."

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS

Extract 4: IDI/Man/50 years/Christian/June, 2020

I am old, and when you are getting old, there are many things you can't be doing again, and even if you do it, it will be once in a while, many of my trips have now reduced however, mobile phone has helped me to be present but not in physical form, like trips made on visitation to a friend or relatives, no more business (I am old),on religious activities in most cases my pastor would pray for me on phone. I do talk with my children on phone nowadays."

From the analyses of both qualitative and quantitative data above, purpose and nature of the religious activities and the condition of an individual such as age contribute in determining the influence which mobile phone use had on religious activities of the people in the study location.

Mobile phone use and trips on visitation to friends/relatives and social ceremonies

On mobile phone use and its influence on the frequency of trips made on visitation to friends/relatives, increase effect was more pronounced. About 40 per cent and 36 per cent of women and men respectively asserted an increase in their trips, while almost 32 per cent of men and about 30 per cent of women claimed reduction in their trips. Almost one-quarters and 20 per cent of men and women separately declared that mobile phone use neither increased nor decreased the frequency of their trips made on visitation to friends and relatives. On the respondents' perceived influence of mobile phone use on trips made on social ceremonies, most women (48.4 per cent) and men (47.8 per cent) claimed that mobile phone use had no influence on their trips From this, we can state that mobile phone use has no significant influence on the number of trips they made on social ceremonies. However, about 38 per cent and 17 per cent of men and women respectively claimed an increase in this type of trip while almost 11 per cent of men and women respectively claimed reduction in this kind of trip. Moreover, 24 per cent and 3 per cent of women and men could not categorically state the influence of mobile phone on the trips they made on social ceremonies (see Table 5). The qualitative data on influence of mobile phone use on trips made on social ceremonies revealed that conversation on mobile phone could not replace attending the occasion physically.

Table 5: Mobile phone use and trips on visitation to friends/relatives and social ceremonies

Influence of Mobile Phone Usage on Trips made on Visitations to Relatives and Friends					
	Reduce	Increase	Ambiguous	No influence	Total
Sex					
Male	52 (31.5%)	60 (36.4%)	13 (7.9%)	40 (24.2%)	165 (100.0%)
Female	50 (30.3%)	71 (43.0%)	11 (6.7%)	33 (20.0%)	165 (100.0%)
Total	102 (30.9%)	131 (39.7%)	24 (7.3%)	73 (22.1%)	330 (100.0%)
Influence of Mobile Phone Usage on Trips made on Social Ceremonies					
	Reduce	Increase	Ambiguous	No influence	Total
Sex					
Male	17 (10.6%)	61 (37.9%)	5 (3.1%)	78 (48.4%)	161 (100.0%)
Female	17 (10.6%)	28 (17.4%)	39 (24.2%)	77 (47.8%)	161 (100.0%)
Total	34 (10.6%)	89 (27.6%)	44 (13.7%)	155(48.1%)	322 (100.0%)

Source: Author's Field Survey (2020).

Extract 5: IDI/Woman/45 years/Self-employed/June, 2020:

"If everybody makes their contributions through phone, then who is going to attend the ceremony? To me personally, no social ceremony can be sustained on mobile phone, one must embark on the trip unless it is not for one to attend the occasion."

However, three of the (male) informants opined that mobile phone use had aided in reducing some of their trips made on social ceremonies. The reduction occurred because they were able to contribute financially through mobile phone.

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS

Extract 6: IDI/Man/37 years/Self-employed/June, 2020

"There was a time, instead of going for a ceremony, I used mobile phone to contact my people and I later sent money to them, so I did not go for the occasion but there were occasions like that which I must just be there physically not because of any other thing but the tradition which requires it."

Mobile phone use and trips on education and recreation

On mobile phone use and its influence on the trips made on educational purposes, almost 44 per cent and 33 per cent of women and men respectively asserted an increase in this kind of trip. About 24 per cent of men and 12 per cent of women claimed reduction in the trip while almost 41 per cent and 30 per cent of women and men respectively claimed that mobile phone use neither increased nor decreased the frequency of their trips made on activities on education. These findings showed that increase effect was more pronounced among the respondents. On mobile phone use and its influence on the frequency of trips made on recreation, almost 68 and 45 per cent of women and men respectively asserted that mobile phone neither increase nor decrease the frequency of the trips made on this purpose, while there were men (36 per cent) and women (8 per cent) that discovered an increase in this kind of their trip. Moreover, almost 14 per cent and 8 per cent of women and men respectively claimed that mobile phone use reduced the number of trips made on this purpose while 11 per cent and 10 per cent of men and women could not categorically state the influence of mobile phone on the trips they made on recreational purpose (see Table 6).

Table 6: Mobile phone use and trips on education and recreation

Influence of Mobile Phone Use on Trips made on Educational Purpose					
	Reduce	Increase	Ambiguous	No influence	Total
Sex					
Male	40 (24.2%)	54 (32.7%)	22 (13.3%)	49 (29.7%)	165 (100.0%)
Female	19 (11.5%)	72 (43.6%)	7 (4.2%)	67 (40.6%)	165 (100.0%)
Total	59 (17.9%)	126 (38.2%)	29 (8.8%)	116 (35.2%)	330 (100.0%)
Influence of Mobile Phone Usage on Trips made on Recreation					
	Reduce	Increase	Ambiguous	No influence	Total
Sex					
Male	13 (8.0%)	58 (35.6%)	18 (11.0%)	74 (45.4%)	163 (100.0%)
Female	23 (13.9%)	13 (7.9%)	17 (10.3%)	112 (67.9%)	165 (100.0%)
Total	36 (11.0%)	71 (21.6%)	35 (10.7%)	186 (56.7%)	328 (100.0%)

Source: Author's Field Survey (2020).

Table: 7 Perceived strongest influence of mobile phone use on all trips

Influence of Mobile Phone Usage on all trips					
	Reduce	Increase	Ambiguous	No influence	Total
Sex					
Male	46 (28.6%)	80 (49.7%)	9 (5.6%)	26 (16.1%)	161 (100.0%)
Female	45 (27.3%)	69 (41.8%)	15 (9.1%)	36 (21.8%)	165 (100.0%)
Total	91 (27.9%)	149 (45.7%)	24 (7.4%)	62 (19.0%)	326 (100.0%)

Source: Author's Field Survey (2020).

Perceived strongest influence of mobile phone use on all trips

On the perceived strongest influence or net effect of mobile phone use on all trips of the respondents, about 50 per cent of men and 42 per cent women reported an increase in all trips, while almost more than one-quarters of men with 27 per cent of women discovered that the frequency of their trips reduced. However, almost 22 per cent of men and about 16 per cent of women respectively declared mobile had no influence on trips they made, while about 9 per cent and almost 6 per cent of women and men declared they were not sure of the correct net influence of mobile phone on the frequency of all their trips (see Table 7).

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS

4. DISCUSSION OF FINDINGS

The current study found that more men found mobile phone ownership very hard than women. This might be partly because women in southwestern Nigeria are perceived to be more attached to their relatives and family members than their male counterparts and mobile phone could be useful in the maintenance of social connectivity. The present millennium has experienced greater use of mobile phone among women in general as they also use smart phones to connect to social networks and for many other things. This study corroborates the findings of Shade (2007) that it was in the past that only men were comfortable picking up and playing with ICT gadgets including mobile phone, while women looked for their entertainment elsewhere. Finding in the current study further indicated that women are using tech devices and doing more with these devices than ever before.

In contemporary era, studies (Ajani XE "Ajani" and Fakunle XE "Fakunle" , 2018; Lemish and Cohen, 2005; Wajcman, 2004; Skog, 2002; Smoreda and Licoppe, 2000) including the current study have found that more women compete with their male counterparts in using modern technology such as mobile phone; and more women are getting used to modern technology unlike before where only men dominated the realm of technology. Caria (2010) found that women scored higher than men in using their mobile phones for sending emails, playing games, listening to music, and sharing pictures and videos among others. The current study also corroborates the assertion that women are adopting mobile technology and thereby makes segmenting and targeting all women who are mobile phone users become difficult (Ezoe, Toda, Yoshimura, Naritomi, Den and Morimoto, 2009).

Moreover, the current study tends to support the claim that women are innately better communicators than men as they talk more and text more than men (Huyer *et al*, 2008). Laura (2010) found that majority of women that are mobile phone users identified mobile phone as the first thing they touched in the morning and mobile devices has fit into their lives. Findings in these previous and the current studies respectively indicated that mobile phone continues to play a big role in the daily activities of women as the majority declared technology has improved their keeping in touch with family and friends and gain more access to get more information on different products. Also, the current study indicated the extension of gender equality to mobile phone use, asserting that mobile phone use is no longer dominated by the male gender as it was when the technology was first introduced.

Realizing gender equality and women empowerment is among the Sustainable Development Goals (SDGs) the countries of the world aim to achieve by 2030. The current study found gender parity in utilizing of mobile phone in the study location; this indicated that women and girls no longer lagged behind in having access to the benefits that tend to accrue from utilizing mobile phone. Therefore, this finding further attested to the realization of the Sustainable Development Goal that aims to ensure that there is an end to discrimination against women and girls everywhere. The goal 4 of the SDGs is "ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all". The current study found that mobile phone use generated more trips made on activities on education for more women than men. This finding suggested that use of mobile phone for educational purpose tends to be a veritable springboard to promote learning opportunities for both genders. This result further supported the suggestion of Li and Kirkup (2007) that literacy projects that are mobile phone enhanced tend to have a more significant impact on surmounting male and female disparity in having access to formal educational opportunities. Tracing the direction of a new place could be a daunting experience, in particular, in a place where the use of map is not popular as in many developing countries. In the study location, people have used mobile phone to get direction to places they had not been before, by making calls to make enquiry via their mobile phones. Moreover, the current study found that mobile phone use had helped the majority of both men and women to locate new places in recent times and that more women used mobile phone for this purpose than men in the study location.

One significant point that this study established was that more women made use of mobile phone for business transactions than men in the study location. This might be because of the kind of the work of most women that requires maintaining contact with customers and clients on phone. Also, more women used mobile phones in contacting and made or received calls which prompted them to visit their friends and relatives than men in the study location. This might be because of the claim that women are more emotionally attached to their friends and relatives than men (Ajani XE "Ajani" and Fakunle XE "Fakunle" , 2018; Smoreda and Licoppe, 2000). The study found that mobile phone use had assisted women to embark on trips made on religious activities more than men. This finding described that women had adopted mobile phone use to continue to compete with male domination of technology use and to promote gender equality in technological environment. This result is in tandem with what is frequent in most religious gathering where more women are found in the laity than men in the southwestern Nigeria.

Both genders largely accepted that mobile phone use had no significant influence on the frequency of trips made on ceremonies. This might lend credence to the popular opinion that people in the southwestern part of Nigeria value social ceremonies and attach symbols and meanings to people's attendance. For instance, the higher the attendance of people, the more popular the celebrant and it is also believed that in no way can communication on phone replace physical attending the occasion. Moreover, many social

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS

ceremonies that take place in the study location involve the use of *Aso Ebi* (agreed uniform cloth for a social ceremony) which must be worn to attend and grace the occasion. This cannot be done on phone; hence, mobile phone may not have noticeable influence on the frequency of the trips made on social ceremonies; also mainly because a ceremony cannot be conducted on mobile phone and physical presence of an individual is important.

Among the challenges which mobile phone users encountered as identified by studies (Ajani XE "Ajani" and Fakunle XE "Fakunle" , 2018; Ogunbodede, 2010; Pettigrew, 2009; Lemish and Cohen, 2005; Scott *et al*, 2004) included poor network quality and narrow coverage, security and harassment, agent and operator trust, and technical literacy and confidence. However, the current study found that economic factor was the major challenge which most of men and women have in using mobile phones. Moreover, more men were found faced by this challenge than women. This might be because men in Africa are often presented as the bread winner of the family and thereby more concerned with financial status of the family than women. The current study is not in support of the studies which asserted that only people with high income own mobile phones while people with low income are economically denied the access to own mobile phones and most of them are women and that the women own and use mobile phones at lower rates than men owing to barriers such as cost (Roos, 1993).

This study found that both men and women with lower income level also had mobile phone; hence, the income disparity of the respondents does not significantly constitute a barrier to mobile ownership and use. This might be because of the reduction in prices of some types of mobile phone in study location; this finding indicated that mobile phone use could not be considered exclusively the higher income earners or a status symbol of only the rich and affluent. The current study established that most men and women agreed that mobile phone use resulted in increased frequency of their trips; this finding therefore suggested that much of the information which people in southwestern Nigeria shared on mobile phone resulted in more trips. However, more women were found asserting that their trip frequency increased via mobile phone use.

5. CONCLUSION

The current study concluded that the contemporary era has experienced gender equality in mobile phone use and that mobile phone use differently influenced the frequency of trips which both gender made on different social activities. However, this research work covered only southwestern Nigeria and this makes it comparatively narrow in scope and this creates several limitations. Therefore, a more detailed and nation-widespread research on the influence of mobile phone use on the trips made on social activities of all mobile phone users is suggested. Moreover, advance studies can be carried out to examine other changes which mobile phone use generates on social activities of men and women apart from its impact on the trips which both gender make on those social activities.

Data and materials availability

All data associated with this study are present in the paper.

REFERENCES AND NOTES

1. Adams, J. (2000). *Hypermobility Prospect*, http://www.prospectmagazine.co.uk/highlights/hypermobility/index.htlm (Retrieved on 25th March, 2013).
2. Adeoye, A. S. (2001). Young People and Mobile Phone: Mobile Communication, Understanding Users, Adoption and Design. *ICT Workshop*, Uni-port.
3. Ajani, XE "Ajani" O. A. and Fakunle XE "Fakunle" , S. O. (2018). Mobile Phone Use and Travel Behaviour of Adult Residents Ile-Ife, South-western Nigeria, *Research on Humanities and Social Sciences;* 8(14), 71-77.
4. Bakke, E. (2010). A Model and Measure of Mobile Communication Competence. *Human Communication Research,* 36, 348-371.
5. Bimber, B. (2000) 'Measuring the gender gap on the Internet, *Social Science Quarterly,* 81, (3), 858-876.
6. Bond, E. (2010). Managing Mobile Relationships: Children's Perception of the Impact of the Mobile Phone on Relationships in their Everyday Lives. *Childhood*, 17, 514-529
7. Campbell, S. W. and Park, Y. J. (2008). Social Implications of Mobile Telephony: The Rise of Personal Communication Society. *Sociology Compass, 2, 371-387*.
8. Caria, G. (2010), Women on the Move: the Mobile Phone as a Gender Technology, *Comunicação & Cultura, 9, 77-88*
9. Chóliz, M. (2010). Mobile phone addiction: Point of issue. *Addiction*, *105, 374.*
10. Elujoba, A. F. (2012). *The History of Ile-Ife (the Cradle of Yoruba) in Brief (first Ed.)* Ile-Ife. Oyelak Publishers.
11. Ezoe, S., Toda, M., Yoshimura, K., Naritomi, A., Den, R., and Morimoto, K. (2009). Relationships of Personality and Lifestyle with Mobile Phone Dependence among Female Nursing Students. *Social Behavior and Personality*, *37, 231-238*.

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS

12. Flinchy, P. (1997). Perspectives for a Sociology of the Telephone. *The French Journal of Communication, 5 (2), 149-160.*
13. Geser, H. (2006), "Are Girls (even) more addicted? Some Gender Patterns of Cell Phone Usage" [Electronic version], Retrieved 2013 March 15 from http://socio.ch/mobile/t_geser3.htm
14. Gonzalez, M. C., Hidalgo, C. A. and Barabasi, A. (2008) Understanding Individual Human Mobility Patterns, *Nature, 453, 7196, 779-782*
15. Horrey, W. J. and Wickens C. D. (2006), Examining the Impact of Cell Phone Conversations on Driving using Meta-analytic Techniques. *Human Factors, 48, 196-205*.
16. Huyer, S., Hafkin, N., Ertl, H. and Dryburgh, H. (2008) "Women in the Information Society, in From the Digital Divide to Digital Opportunities: *Measuring Infostates for Development, 2005, 135–196.*
17. Jackson, L., Ervin, K., Gardner, P. D., and Schmitt, N. (2001). Gender and the Internet: Women Communicating and Men searching, *Sex Roles, 44, (5/6), 363-379.*
18. James, J. and Versteeg, M. (2007) Mobile phones in Africa: how much do we really know? Social Indicators Research, 84,(1),117-126
19. Jin, B. and Peña, J. F. (2010). Mobile Communication in Romantic Relationships: Mobile Phone Use, Relational Uncertainty, Love, Commitment and Attachment Styles. *Communication Reports 23 (1), 39-51.*
20. Junco, R., Merson, D., and Salter, D. W. (2010), The Effect of Gender, Ethnicity, and Income on College Students' Use of Communication Technologies. *Cyberpsychology, Behavior, and Social Networking. 13, 6, 619-627*.
21. Laura, S. (2010), Mobile Technology, Gender and Development in Africa, India and Bangladesh ElorE (ISSN 1456-3010), 17, 1. http://www.elore.f/arkisto/1_10/ajankoht_stark_1_10.pdf
22. Lemish, D. and Cohen, A. (2005), "On the Gendered Nature of Mobile Phone Culture in Israel *Sex Roles: A Journal of Research, 52(7-8), 511-521.*
23. Lerman, N. E.; Oldenziel, R.; Mohun, A. P. (eds.) (2003), *Gender & Technology*: A Reader, Baltimore and London: Te John Hopkins University Press.
24. Li, N. and Kirkup, G. (2007). 'Gender and Cultural Differences in Internet Use: A study of China and the UK, *Computers & Education, 48, 301-317*
25. Ling, R. (2004). *The Mobile Connection: The Cell Phone's Impact on Society*. San Francisco: Morgan Kaufman.
26. Ling, R. (2001) "We release them little by little": Maturation and Gender Identity as seen in the Use of Mobile Telephony, *Personal Ubiquitous Computer 5, 2, 123-136*.
27. Ling, R. (2000). "We will be reached": the Use of Mobile Telephony among Norwegian Youth. *Information Technology and People, 13 (2), 102-120*.
28. Manceron, V. (1997). Get Connected! *The French Journal of Communication, 5(2), 229-241*.
29. Mckenna, H., and Bargh, O. (2000). Mobile Phone Ownership and Usage. *Telematics and Informatics, 21*, 359-373. mobility.com.ng (Retrieved on 18th June, 2018). Mobility.com.ng, (retrieved on 18th June, 2018).
30. Mokhtarian, P. L. (2009). If Telecommunication is such a Good Substitute for Travel, why Does Congestion Continue to get Worse? *Transportation Letters*, 1, 1–17 (Retrieved on 25th March, 2013).
31. Muhammed, R. and Tomonori, S. (2009). The Effect of accessing Real-time Bus arrival Information via Mobile Phone on the Travel Time Dispersion of Transit Passengers. *International Journal of Environment and Sustainable Development 8 (3/4) 351-364*
32. Ogunbodede, E. F. (2010). Cell Phone Usage and Travel Behaviour in Ondo State, Nigeria. *Journal of Mobile Communications*. 4 (3), 68-74.
33. Olatunji W. F., (2005). *Emerging Travel Patterns.* Ibadan, Nigeria. Chaoba Publisher.
34. Omotayo B., Yifeng H. and Shyam, S. S. (2008) Cell Phone Usage and Social Interaction with Proximate Others: Ringing in a Theoretical Model. *The Open Communication Journal 2, 127-135*
35. Pettigrew, J. (2009). Text Messaging and Connectedness within Close Interpersonal Relationships. *Marriage and Family Review, 45, 697-716*.
36. Rakow, L.; Navarro, V. (1993), "Remote Mothering and the Parallel Shift: Women meet the Cellular Telephone", *Critical Studies in Mass Communication, 20 (3), 144-157*.
37. Rapp, B., and Skåmedal, J. (1996). Implications of Telecommunication. KFB Rapport (English Version) *Journal of Communications* 1996:2. www.researchgate.net/publication (Retreived on 25th March, 2013)
38. Roos, J. P. (1993). Sociology of Cellular Telephone: The Nordic model. *Telecommunications, 17, 446-456.*
39. Salam, J. F. (2008). Sociology of Cellular Telephone: The Nordic Model. Mobile Phones in Finland. *Telecommunications Policy*, 17, 61-102. (Retrieved on 25th March, 2013).
40. Salomon, I. (1996). *Telecommunication, Cities and Technological Opportunism*. Annual of Regional Science, 30, 75-90.
41. Salomon, I., and Schofar J. L. (1998) Forecasting Telecommunication Travel Interaction: Transportation Manager Perspective. *Transportation Research 22, 219-229*.
42. Scott, N., McKemyey, K. and Batchelor, S. J. (2004). "The Use of Telephones amongst the Poor in Africa: Some Gender

Implications, Gender Technology and Development, 8(2), 185-207

43. Shade, L. R. (2007), "Feminizing the Mobile: Gender scripting of mobiles in North America, Continuum: *Journal of Media & Cultural Studies, 21(2), 179-189*.
44. Smoreda, Z., and Licoppe, C. (2000), Gender-Specific Use of the Domestic Telephone. *Social Psychology Quarterly, 63, 238-252.*
45. Skog, B. (2002), "Mobiles and the Norwegian Teen: Identity, Gender and Class, in J. Katz (ed.), *Perpetual Contact: Mobile Communications, Private Talk, Public Performance*, Cambridge: Cambridge University Press.
46. Srivastava, L. (2005). Mobile Phones and the Evolution of Social Behaviour. *Behaviour and Information Technology, 24, 111-129.*
47. Steenson, M. (2006), *Mobile Space is Women's Space: Reframing Mobile Phones and Gender in an Urban Context*, Yale School of Architecture.
48. Wei, R. and Lo, V. (2006). Staying Connected while on the Move: Cell Phone Use and Social Connectedness. *New Media Society, 8, 53-72*.
49. Wajcman, J. (2004), *TechnoFeminist*, Cambridge: Polity Press.
50. Zulkefly, S. N., and Baharundin, R. (2009). Mobile Phone Use amongst Students in a University in Malaysia: Its Correlates and Relationship to Psychological Health. *Open Journal of Scientific Research,* 37(2), 206-218.

ISSN 2278–5469 EISSN 2278–5450 I OPEN ACCESS