INTERNET USAGE IN AN OFFLINE WORLD.
A STUDY OF THE DIGITAL DIVIDE IN CUBA.

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ABSTRACT

The digital divide has been an important academic distress over the last twenty years. While the first generation of studies of the digital divide focused only on physical and material Internet access, recent research has considered the importance of skills and usage gaps. Although Western literature has moved in this direction, in developing countries such as Cuba, inequalities of access are still visible. Therefore, this study seeks to bring to light meaningful insights of the first and second level of digital divide, as well as the socio-demographic factors that influence the digital divide in a country with the most restricting media environments in the world. Online and offline surveys were conducted over a period of four weeks in June 2016. The target group of this study was young people with at least six months of Internet experience both from inside and outside the capital. A total of 106 surveys were analysed. Results show that although a small number of Cubans have access to Internet at work, access limitations greatly restrict Cubans' Internet use. This study shows that Cubans access to the Internet mainly through desktops, have a positive attitude towards Internet and use the Internet for social and networking purposes. One of the biggest contributions to the Digital divide field is that Cubans use the Internet for the same purposes no matter the educational level and gender. Low and high-educated people use the Internet for the same reasons. Likewise, women and men have the same Internet skills, opposite to what is observed in research. Other important contribution is that this research serves as baseline-work for those who are interested in engaging more directly with Cuba. Future research needs to move beyond the study of access to the Internet to track the benefits of the Internet, the type of content consumed and the social exclusion. The general conclusion is that Cuba will rapid adopt the Internet, if access restrictions are raised.

Keywords: digital divide, digital exclusion, digital inequality, Internet skills, Internet Usage, physical access, Internet in Cuba.

INTERNET USAGE IN AN OFFLINE WORLD: A STUDY OF THE DIGITAL DIVIDE IN CUBA.

1. INTRODUCTION

Cuba was once the leader of new technology in Latin America. Cuba accounted for 32% of Caribbean international news. Cuba was the first country in the world to have a direct dial phone. Cuba was the second country in the world to open a radio station and to formally use TV. But in 1959, a new era in the national history had begun. Fidel Castro declared Cuba as a socialist country and by such reason communications were not perceived as part of national development, only as part of national defence and security (Press, 2011 & Hoffmann, 2003). In the early 90s, Cuba appeared situated to grow in the computing sector with some predicting faster change (G. M. Mesher, R. O. Briggs, S. E. Goodman, J. M. Snyder, and L. I. Press. 1992). In 1996, Cuba was connected to the Internet and government officials seemed positive about its potential use in the country. However, five years later, Cuba was at the lowest point in six dimensions of Internet access (Pervasiveness, Geographic Dispersion, Sectoral Absorption, Connectivity Infrastructure, Organizational Infrastructure, Sophistication of Use) (Goodman and Foster, 2001).

The constitution prohibits privately owned media, and restricts any speech that is believed counter-revolutionary. Cuba has long ranked as one of the world's most repressive settings for information and communication technologies (ICTs). High prices, exceptionally slow connectivity, and extensive government regulation have resulted in a noticeable lack of access to applications and services other than email (Firchow, 2013). Experts estimate that only a tiny percentage of Cubans periodically have access to the unrestricted global Internet via government institutions, foreign embassies, and expensive connections in some hotels, and black market sales of minutes by those permitted to have online accounts. According to some researchers, the reasons for this Internet inaction include lack of reserves, the US block against Cuba, and the Cuban government's fear of freedom of information. García-Pérez et al. (2006, p. 17): "Despite the efforts of the government and resources put in place obstructing any flow of foreign information, more and more Cubans are managing to access information, sometimes about Cuba, from sources outside the country. They do so for curiosity, entertainment purposes, or looking for news about the outside world and also about their own country not provided by the local media. Moreover, only select categories of users are authorized to access a wider, but still inadequate, portion of the global Internet or other ICT tools." However, Cuba has still one of the most restricting media environments in the world.

In December 2014, the United States and Cuba announced that they intend to normalize relations. Nevertheless, as of spring 2014, a few have access to an email service on phones called Nauta, costing $1.20 per megabyte. After that, Cuba has taken some actions to strengthen this optimism by improving Internet access on the island. Over the past year, the government opened a number of new Internet access points, which swank somewhat faster speeds and lower prices. After an initial trial with

the first permitted public Wi-Fi zone, the government opened 35 paid public Wi-Fi hotspots in June and July 2015 (House, 2011). For Cuba this advancement in increasing access is significant, but it is still just a small advance when it comes to diminish the most extreme controls on Internet freedom in the hemisphere. Current Internet penetration in Cuba is estimated between 5 to 25%, with only 5% of the population having full access to the Internet. The rest only have limited Internet access that includes a national e-mail system, pro-government websites, and some other services (Reporters Without Borders, 2011). Hence, if one has email access, whether by smartphone or computer, this does not mean that they have Internet access. In fact, home Internet connections are still prohibited, and even with low-prices, public Internet access points still cost US$2 per hour to use, which is equivalent to one-tenth of the average monthly salary. Even for those who might have the monetary resources to have Internet, the stock of Internet access, mostly concentrated in the capital, is extremely out of proportion with the needs of a country of 11 million people (The Guardian, 2014).

In March 2016, President Barak Obama visited the island; he is the first American president to visit Cuba after the Cuban revolution. During the visit, several further developments were declared. Moreover, the most widely publicized announcement was that Google would offer free, high-speed Internet access to Cubans at a technology centre belonging to the Cuban artist Kcho. The centre will be equipped with laptops, Google Cardboard and phones. Also, Booking.com and Airbnb announced that they would no longer restrict access to customers who want to book online rooms to visit the island (Press, 2016).

As a developing country with a young population and a potential for economic growth, Cuba has demonstrated slow growth both in Internet adoption and governmental use of these technologies. Furthermore, there are significant inequality issues, which have not been addressed concerning attitudes, access, skills, types of usage, and the benefits of the Internet in Cuba. In contrary, according to Western literature, the digital divide has been an important academic distress over the last twenty years. While the first generation of studies of the digital divide focused only on physical and material Internet access (first level) recent research has considered the importance of skills and usage gaps (second level) (Bertot, 2003; Hargittai, 2002; Van Dijk & Hacker, 2003; Warschauer, 2003a). The discussion on the digital divide has stretched to include a consideration of other factors that generate digital inequality, the so-called tangible outcomes of Internet (third level) (Van Deursen, Helsper & Eynon, 2015). Although the literature has moved in this direction, in developing countries, such as Cuba, inequalities of access are still visible. While an increase in the percentage of Cuban public Wi-Fi hotspots connected to the Internet, a large part of society still waits behind in a virtual society.

The aim of this paper is to bring to light meaningful insights of the first and second level of digital divide in a developing country. Understanding the situation of the Internet in Cuba, its political and social context, and its early adopters is, first, of interest for researchers, corporations, and organizations expecting to participate more directly with Cuba. Second, insights developed from understanding this peculiar situation may provide insights into the role of the Internet and digital exclusion in other developing

countries. These interests point to the first three research questions:

1. *What type of devices do Cubans use to go online? (First level)*
2. *What is the level of Internet skills, and what do they do online? (Second level)*
3. *How do social-demographic variables affect first and second level of the digital divide?*

In the following sections, this paper will first give a brief overview of the motivation and current Internet access in Cuba. The second section will explore the skills and usage of Internet among Cubans. The third section will summarize the socio-demographic differences among the use of Internet. Finally, the implications of the results of this study will be presented in the discussion.

2. THEORETICAL BACKGROUND

2.1 First level digital divide: attitude and physical access

The Digital Divide has become an important topic in the field of Communication science, especially in western countries. However, relatively few studies focus on developing countries where Internet-penetration rates remain very low. A decade ago, the concept of the digital divide was originally defined as a gap between those who have access to digital technologies and those who do not (National Telecommunications and Information Administration, 1998; Selwyn, 2004). In other words, you either had the monetary means to get a connection or you did not. With further diffusion of the digital media into society, the focus of the digital divide extends above motivation access (confidence, and attractiveness of the human–technology interface); physical or material access (opportunity to use technological interfaces and connect to networks) and shifts to the stages of skills and usage (relating to the use of sophisticated information and communication processes as opposed to basic tasks, entertainment, etc.). Today, researchers incorporate other factor that generates digital inequality, the so-called tangible outcomes of Internet (the satisfaction and benefits of the usage of Internet*).* Indeed, the digital divide can be understood as inequalities among these three successive levels; motivation and physical or material access, digital skills and usage and, tangible outcomes of Internet (Bertot, 2003; Hargittai, 2002; Van Dijk & Hacker, 2003; Van Deursen, Helsper & Eynon, 2015).

Although the Cuban state consistently blocks Internet access by, for example, policy restrictions, surveillance, or providing a lack of resources, Cubans are hungry for more Internet access and for greater levels of connectivity, both within and outside the island (Cuba Sudy Group, 2010). Regarding this first level, Van Dijk (2012) claims that people get more motivated to obtain a computer and reach Internet increases fast when the technology has largely diffused in society. In this particular case, despite impediments to open communication online, Cubans are eager to communicate with one another, as well as the rest of the world (Dye, Antón & Bruckman, 2016). In other words, Cubans are stimulated to use Internet even when they find limitations by the State.

Adding to the above, Corrales and Westhoff (2006) find a ‘complex relationship between political liberties and Internet adoption’ in which ‘not all authoritarian systems depress Internet use similarly but states that repress political and economic rights are less likely to adopt liberty-promoting new technologies’. Also, they suggest that there are three types of state policies to control the Internet: ‘blockage, access restrictions, and content control’. At the most extreme level, an authoritarian system might pursue to block the Internet totally. If any of this were true in Cuba, it would appear that access restriction is the central mechanism of control over Internet use for the Cuban government. There are three major causes for the lack of Internet access in Cuba: The US embargo, the Cuban economy, and the government's fear of information freedom (Press, 2011). This suggests that the situation in Cuba may have commonalities with its Caribbean neighbour Trinidad, which also has a high basic literacy rate and an authoritarian regime. This raises the intriguing question of whether Cuba will follow Trinidad’s pattern of extremely rapid adoption of the Internet going forwards, if access restrictions are raised.

In Cuba there is a good demand for the Internet among the well-educated Cuban population (Press, 2011). However, the question of exactly what benefits Internet use brings has not been resolved, and ‘‘too often it is simply assumed that being online is necessarily a ‘good thing’’ (Livingstone & Helsper, 2007, p. 673). Some research suggest that Internet possesses huge potential to generate transformative processes and as Díaz Rodríguez and Sokooh Valle (2013) indicate, can provide for wide-ranging and productive dialogue between persons and state organisations. But currently Cubans are isolated from the World Wide Web in universal terms and this implies a type of social exclusion that might have disadvantageous long-term effects on the island’s population. Van Dijk (2012) claims that the Internet population is shifting. First, he defines the so-called intermittent users: people that go offline for extended periods for some reason. Then, a second often-unseen group consists of dropouts: those who more or less permanently lose connection to the Internet. The next group is the ‘net-evaders’ that basically refuse to use the Internet and it does not matter whether they have the resources or not. However, the number of intermittent users, dropouts and ‘net-evaders’ is decreasing when the technology becomes a necessary tool for daily life. In short, there are different reasons why people use or use not the Internet. In the case of Cuba, the intermittent users seem to be the most usual. Even if they have the enthusiasm to start using the Internet, there are still many limitations to use the Internet on the island.

Apparently, one of the biggest motivations for Cubans to start using a new technology comes with the fact that nearly every Cuban has family members outside of Cuba and many have not been in contact with them for years. In addition, phone calls to people outside of Cuba are expensive. Therefore, the Internet, particularly Facebook, is opening new communication possibilities for Cubans (Dye, Antón & Bruckman, 2016). This fact is connected to what Helsper (2012, p.11) states: “Internet motivation and awareness of the benefits are determined by both individual and social circumstances; and engagement as driven by the ordinary life needs of persons through content created by and for them so that engagement is effective and sustainable.”

Another particular motivation for Cubans to use Internet is to obtain more information about the inside and outside world. Because Internet penetration remains low in Cuba, communities use collaborative efforts to retrieve and share information. In Cuba, news primarily continues to travel through face-to-face social networks. People with Internet access often retrieve content for others and broadcast information to their local communities (Dye, Antón & Bruckman, 2016). Brooks (2005) found that by dramatically increasing access to relevant information through electronic resources, developing nations stand to experience much remuneration. Most notably, such countries may see a severe increase in the overall quality of education in their schools and universities through improved access to the latest research information. The outstanding benefits from having a better-educated population can often include the development of a more highly skilled workforce and an improved economy overall. Also Polat (2012) states that in the age of the Internet, enjoying full citizenship requires new educational and technological access and skills. In addition, social problems such as poverty, illiteracy, and other drawbacks prevent many people from fully participating in an increasingly online world. What is interesting in Cuba is that even without Internet, Cuba has a 99.8 percent literacy rate and, their tertiary education expenditure and enrolment rates are the highest among the Latin American and Caribbean nations classified by the World Bank as upper-middle income. However, since the revolution, Cuban media has been controlled by the government limiting the amount of information that Cubans receive about the outside world as well as their own community. This lack of media interaction stimulates a lack of the perception and perspective of reality of the citizens (Dye, 2016).

In the developing countries, the physical access divide kept spreading and is still spreading. According to Ohemeng and Ofosu-Adarkwa (2014) the concept of access goes beyond physical access but the acquisition of hardware and software as well as multifaceted uses of software for design and production. Between these two extremes, which represent both physical and expressive access, exist other dimensions of access: quality and affordable hardware and software, tools with rich educational content and/or fun activities, and technical and educational support. Nevertheless, it is presumed that there are no clear distinctions between different types of access. Actually, Orlikowski and Iacono (2008) pointed out that this impedes a proper understanding of how people engage with technologies. For instance, a high number of access platforms, such as PCs, laptops, games machines, and smart phones, as well as a greater mobility in accessing content are indicators of plentiful access. But, it is important to include and look at the different types of platforms for access since in digital-inclusion research access is often seen as either there or not. In short, it can be said that having physical and material access does not automatically lead to appropriation of the technology, as one first has to develop several skills to use the any medium. Actually, there is a strong probability that the more these skills are mature the more suitable use can be made of the technology in some applications.

Following the same spirit, Salzman (2011) found that important aspects should be taken into account when measuring access. For example, mobility, quality and ubiquity are aspects that go beyond operationalization of access. In other words, having just access is not sufficient. He confirms this by concluding “having ICTs at home provides more space to develop digital skills than any other space.” Thus, home access is an

indicator of high quality of access. Similarly, in the case of the Internet, always on and broadband access should lead to a higher quality experience and broader use (Anderson, 2007; Choudrie & Dwivedi, 2005). Conversely, Internet access in Cuba is under state control and is regulated by the Law of Security of Information, which prohibits access to Internet services from private homes except in extraordinary circumstances (Amnesty International, 2010). It operates on fragile satellite and dial-up connections that can be accessed by tourists and the few locals possessing tourist currency in local hotels; only in rare cases a home connection is possible.

In order to bring high-speed Internet to Cubans in February 2011, a 1000-mile fiber-optic cable was installed from Venezuela funded by the Bolivarian Alliance for the Peoples of Our America (Anonymous, 2011). According to the World Bank's World (2010) at 15.12% Cuba is ahead of Haiti, Nicaragua, Guatemala, Honduras, Belize and El Salvador in Internet users as percentage of population. Although the statistics for Cuba do include both Intranet and Internet use, it is quite striking since these countries have no legal restrictions beyond poverty and inequality to access the Internet. In addition, Intranet access is mainly through government-run computer clubs and schools as well as places of employment. This allows Cubans to access news sources, social media and email, but is limited to the island. Mobile phone use has quadrupled since it was legalized in 2008, although there is no Internet on phones in Cuba.

In fact a study of 38,000 people by the Cuban National Statistics Office (ONE) in 2009 demonstrates that only around 2.9 percent of respondents had had direct access to the Internet in the previous year (Dirección de Turismo, Comercio y Servicios de Cuba, 2010). However, according to Andrea Rodríguez of Associated Press, "outside experts estimate the real figure is likely to be 5 to 10 percent accounting for black market sales of dial-up minutes" (Rodríguez, 2012).

The majority of access to the Internet in Cuba (around 60 percent) is carried out at school, while access at home accounts for some 20 percent. Only around 20 percent of the Cubans in that study accessed the Internet at least once a day, while most said that they connected between once a week and once a month (Rodríguez, 2012). In addition, few people have Internet access at home and none have access on their cell phones (Dye, Antón & Bruckman, 2016). Computer hardware at home was purchased either during international travel or on the black market (Dye, Antón & Bruckman, 2016). Some home hardware was surprisingly up-to-date, while other hardware was cobbled together from quite old components. In contrary, Western literature shows that home access to ICTs offers more freedom to use and to develop digital skills through informal learning than access in other locations (Buckingham, 2005; Jackson et al., 2006; Livingstone, 2003). Home access can therefore be used as an indicator of high-quality access (Mumtaz, 2001). Similarly, in the case of the Internet, always-on and broadband access should lead to a higher quality experience and broader use (Anderson, 2007; Choudrie & Dwivedi, 2005).

2.2 Second level: Internet skills and Internet usage

Once people obtain the devices to access to Internet, what are the skills they should have? And where can they learn them? In Cuba exists the Youth Computer Clubs

(YCC) where students can learn computer skills from the earliest grades in elementary school. The YCCs have 8,626 computers in 607 locations. But, most of them are disconnected to Internet – meaning, that probably the skills needed to navigate an online life are not being taught in these spaces (Duong, 2013).

In relevant literature there is a differentiation between Internet skills and computer skills (Van Dijk & Van Deursen, 2014). Other authors conclude that there are two dimensions of abilities: knowledge and skills. Knowledge is defined as the understanding of how our everyday world is constituted and works, whereas skills involve the ability to pragmatically apply, consciously or unconsciously, our knowledge in practical settings (Anttiroiko, Lintilä & Savolainen, 2001). Internet skills, therefore, cannot be defined in a simple way, in fact, it has been a topic studied for years, it has a constant transformation. For instance, Van Deursen & Van Dijk, (2011,2015) defined four types of Internet skills: Operational, 'the skills to operate digital media'; Formal, 'the skills to handle the special structures of digital media such as menus and hyperlinks'; Information, 'the skills to search, select and evaluate information in digital media'; and Strategic, 'the skills to employ the information contained in digital media as a means to reach a particular personal or professional goal.' Also, Van Deursen & Van Dijk (2014) fulfilled this framework by adding both Communication and Content Creation skills. The authors describe Communication Internet skills as (1) "the ability to encode and decode messages to construct, understand, and exchange meaning with other humans using message systems such as e-mail, chat boxes, or instant messaging; (2) searching, selecting, evaluating, and acting upon contacts online; (3) attracting attention online; (4) online profiling; (5) online experimentation for better decision-making; (6) the social ability to pool knowledge and exchange meaning with others in peer-to-peer networking; and (7) the ability to exchange meaning to reach decisions and realize transactions while understanding the meanings of others/partners." Recently, Van Deursen, Helsper & Eynon (2016) redefined the previous framework consisting of five types of Internet skills: operational, navigation information, social, creative, and mobile skills.

One of the criticisms of the previous definition of Internet skills is what Schmidt and Stork (2008) point out, Internet skills cannot be defined in the same way in among developed and developing countries. What is thought to be difficult in a developing country may turn out to look very simple in a developed country setting. Schmidt and Stork summarized that Internet skills are the capabilities needed to perform a specific task. However, today, no matter if we talk about a developing or developed country, Van Dijk & Van Deursen (2014) claim "the Internet requires more skills than traditional media and more than computer skills alone. For example, skills are needed when people search for information on the web, when they have to practice online communication, and when they create online content." On the one hand, computers and the Internet and their clever interfaces make such uses easier than traditional media. On the other hand, they make such uses more difficult because they involve learning additional skills.

Likewise, it is known that skills are developed with increasing frequency and time of use, or what is called experience (Attewell, 2001). However, there are social and intellectual skills that must be developed before one begins to use computers, the

Internet, and other digital media. In fact, according to Mariën & Prodnik (2014) "individuals do not feel digitally excluded because they find alternative ways of coping with the different barriers they were encountering." For example, used various public and private Internet access points and were able to develop their skills in an autonomous way through a trial-and-error approach Mariën, I., & A. Prodnik, J. (2014). This raises the question of what happens to the Cuban society when they do not have constant Internet access to develop their skills? Do they feel digitally excluded?

Once the obstacle of access has been overcome and people can finally have Internet access for the first time, what do they use it for? The uses-and-gratifications approach and the related Expectancy-Value Model (Palmgreen and Rayburn, 1979) explain the way people adopt and use communication media as a function of their psychological needs. For instance, some gratifications found are problem solving, persuading others, relationship maintenance, status seeking and personal insight (Flanagin and Metzger, 2001). It can be defined in terms of content (broadband or narrowband, active and creative or consumptive), frequency, length of time the Internet is used and the type of activities performed (Van Deursen & Van Dijk, 2014). A common hypothesis is that some Internet usage activities are more beneficial or advantageous for Internet users than others. Some activities offer users more probabilities and resources in moving forward in their career, work, education and societal position than others that are mainly consumptive or entertaining (e.g. DiMaggio et al., 2004; Hargittai and Hinnant, 2008; Kim and Kim, 2001; Mossberger et al., 2003; Van Dijk, 2005; Wasserman and Richmond-Abbott, 2005; Zillien and Hargittai, 2009). In fact, Van Deursen & Van Dijk, (2014) developed a classification of usage activities that is validated by established Uses and Gratifications Theory and can be used to reveal which socio-demographic variables reveal seven differences in usage.

(1) Personal development (Finding online courses and training, following online courses, find vacancies/applying for Jobs, independent learning)
(2) Leisure (Downloading music/video, hobby, free surfing)
(3) Commercial transaction (Using sites such as eBay, acquiring product information, shopping or ordering products)
(4) Social interaction (Using social network sites, chatting, sharing photos/videos)
(5) Information (Using search systems, searching information)
(6) News (News services, newspapers and online magazines)
(7) Gaming (Playing online games)

In the current study, it's interesting to compare previous experiences with populations that got late access to the Internet and how they used it. The authors of the Early Internet use in US Native American reservations concluded that first usage people do in Internet is for work and education; however, they found that their participants were primarily using the Internet for entertainment purposes, similar to how typical individuals around the world use it (Dye, Antón & Bruckman, 2016). Other studies observe that within one month of acquiring Internet access on mobile phones, Indian youth in slum communities access social media such as Facebook (Akca, Sayili & Esengun, 2007). A similar study in Cuba reveals that 91% of Cubans with Internet access use Facebook (House, 2009). In a context in which most people do not have consistent access to any kind of communications technology including telephone,

intermittent access to Facebook is used for elementary communication for both work and socializing. In fact, Dye et al. (2016) conclude that Facebook is used as a central communications channel both with others in Cuba and to reach people abroad. In addition, it was found that participants with lower access reported that they trust on others to help maintain their Facebook presence, further emphasizing the importance of collective efforts to use Internet tools. Furthermore, the authors conclude that the majority of Facebook posts by participants dealt with entertainment content or personal pictures. This is similar of what corresponds with García-Pérez (2006, p.17), who suggests that: "Cubans are managing to use Internet to access information, sometimes about Cuba from sources outside the country. They do so for curiosity, entertainment purposes, or looking for news about the outside world and also about their own country not provided by the local media."

Helsper, Van Deursen, & Eynon (2016) designed an index of digital inclusion to measure Internet usage. The authors classified four types of usage of Internet. First, uses in the economic field, a concept related to poverty, joblessness, and wealth. Think of using the Internet for financial services and banking or shopping online. In addition, the economic field refers to selling something online, or job seeking or looking for learning opportunities to improve your job prospects. The *economic* field is one of the areas of research that has caught the attention of policy makers and digital inclusion interventions, especially in terms of thinking about which activities online are related to employment, ecommerce and other wealth and poverty related aspects. Second, uses in the *cultural* field, which encompass knowledge, education, and understandings of value of entertainment and art and other social-cultural distinctions that make up social status and are related to belonging to certain socio- cultural groups. The third field is related to *social* resources reflect involvement in and attachment to networks that give a person access to the knowledge and support of others. Thus there are a range of Internet uses that could be part of this process, including connecting with family members and sharing photos or linking up with friends. The fourth field concerns *personal* resources that reflect mental and physical well-being and aptitudes. Also includes self-actualisation; informal knowledge gathering that makes a person feel better about themselves. For example, using the Internet to exchange information with others about problems or issues of concern to the individual. The four different fields contain a collection of interlinked resources; each of these resources is operative through specific indicators in research and useful to evaluate the effectiveness of interventions that aim at improving people's lives in different ways. The four fields of economic, cultural, social and personal resources are considered to be conceptually separate although they are often strongly interrelated because of wider underlying power structures that concentrate (dis) advantage in certain groups (Helsper, 2012).

2.3 Socio-demographic differences among first and second level

As stated before, the notion of the digital divide was initially outlined as a gap between those who have access to digital technologies and those who do not (National Telecommunications and Information Administration, 1998; Selwyn, 2004). More than twenty years of digital divide research shows that Internet access is linked with age (Loges & Jung, 2001), gender (Wilson, Wallin, & Reiser, 2003), education (Bucy, 2000), income (Rice & Haythornthwaite, 2006), ethnicity (Hoffman, Novak, &

Scholsser, 2001; Jones, Johnson-Yale, Millermaier, & Perez, 2009), and geography (Hindman, 2000; Wei & Zhang, 2008a). This was a valid focus of investigation in the early phases of Internet diffusion and contributed to the understanding of the digital inequality. For instance, DiMaggio (2004) states, "people of higher socio-economic status employ the Internet more effectively and to greater economic gain than there less privileged, but nevertheless connected, peers." In contrast, people with lower levels of socio-economic status tend to use the Internet in more general and superficial ways (Van Dijk, 2005). In this case, socio-economic status can be considered as a multifaceted concept incorporating educational level of achievement, employment status and income. This is similar to what Sandvig (2008) observed when Internet access was first introduced to a Native American reservation in the US. In his "cute cat theory of the Internet," Ethan Zuckerman claims that entertainment applications of IT are often a first step towards more serious uses. Further, under conditions of censorship, large volumes of entertainment use can help camouflage more controversial uses. In short, the current state of the Internet in Cuba can be defined a "pre-cat" because bandwidth limitations mean that Cubans generally cannot yet engage in many of the entertainment applications observed by Sandvig and Zuckerman.

Although Cuba is a socialist country, social and economic disparities still exist. And it might be that the introduction of Internet access is creating a stronger division inside the island. As Witte and Mannon (2010, p. 291) claim "the Internet is not only an active reproducer of social inequality, but also a potential accelerator." Rather than equalization, the Internet tends to reinforce social inequality and lead to the formation of disadvantaged and excluded individuals (Golding, 1996; Norris, 2001; Van Dijk, 2005). For Wei and Hindman (2011) claim that Internet is associated with a greater knowledge gap than the one considered in traditional media. An example of this is what Marreito, (2011) points out, in Cuba it is only foreigners and some professions, among them including journalists, and artists who are authorized to legally acquire an Internet connection creating a deeper inequality. However, other researchers suggest that online communication technologies in Cuba have allowed for a more pluralized public space, bringing together microsites that were once segmented and inaccessible. Yet, these online spaces are still limited to a select few, namely young intellectuals who are able to gain Internet access (Dye, Antón & Bruckman, 2016). Based on the previous literature, the following hypotheses are assumed.

H1a: Employed people use more devices
H1b: Employed people have more Internet skills

In order to be able to make reports about the digital divide in Cuba, one has to define the socio-demographic variables that might be relevant for the study. Based on literature, one of the most significant variables to measure in the digital divide studies is age (Bonfadelli, 2002). Hence, it appears that young adults take the lead with the use of communication tools, such as instant messaging and chatting, and are more likely to pursue entertainment and leisure activities, such as downloading music or surfing for fun (Dutton et al., 2011; Fox and Madden, 2005; Jones and Fox, 2009). In contrast, buying products online, emailing, and searching for health-related information are more

popular among older users (Jones and Fox, 2009). Based on the previous literature, the following hypotheses are assumed.

H2a: Younger people have a positive attitude towards Internet
H2b: Younger people have higher social Internet skills

Another evident disparity to access to Internet in Cuba is the income factor. According to Van Deursen & Van Dijk, (2014) this variable is highly related to physical and material access. Other studies have found that the probabilities of access increased most rapidly for individuals at highest family income levels and most slowly for individuals with the lowest income levels (Martin & Robinson, 2007). In addition, Madden (2003) discovered that those with a higher household income are less likely than those with less income to use instant messaging or download music. However, they are more expected to seek news and product information or arrange for travel online and typically use the Internet for work. In Cuba, access in an ETECSA (Empresa de Telecomunicaciones de Cuba S.A.) Internet centre, cybercafé or hotel costs between 6 and 12 CUC (1 CUC = $1.08) per hour. It is important to highlight that these are for dial-up or Wi-Fi links, and the average monthly salary in Cuba is around $20.1.

H3a: People with higher income have more electronic devices
H3b: People with higher income use the Internet for Economic purposes

Gender has been an important variable in the digital divide literature. Research shows that females are at a disadvantage relative to men when learning about computers or learning other material with the support of computer-assisted software. Cooper, (2006). Furthermore, literature has shown unsure improvements in the gender gap. For example, Colley and Comber (2003) found that girls' interest in computer applications has improved, but girls continue to like the computer less than boys do, and still use them less outside of school. Similarly, Mucherah (2003) found that, relative to the reactions of adolescent boys, teenage girls felt far less involved with computers and enjoyed them less. In contrast, according to ITU World Telecommunication/ICT Indicators database in Cuba female use of Internet (29.8%) ranks higher than male (25.1%). In short, for some countries, gender variable shows disparities in the use of Internet. One can expect that in a digital unique country such as Cuba, the statistics of gender gap will be similar to the rest of the developing countries. However, Cuba has its own particular exception. Based on the previous literature, the following hypotheses are assumed.

H4a: Men are more motivated to use Internet
H4b: Men have higher Internet skills

Education has been a studied variable from the beginning of research studies. Through the years researches have been able to reach out to different conclusions by explaining the types of online activities a person will pursue (Robinson et al., 2003; Van Dijk, 2005). For instance, Madden (2003) discovered that people with a higher level of education are less likely to download music or use instant messaging but that they are more likely to use the Internet for news, work, travel arrangement and product information. Also, research suggests that people with higher levels of education use

the Internet for casual browsing, playing games or gambling online (Howard, 2001). Moreover, Hargittai and Hinnant (2008) found that those with higher levels of education use the Internet for 'capital-enhancing' activities, which includes seeking political or government information, exploring career opportunities and consulting information about financial and health services. Finally, Helsper and Galacz (2009) revealed that the lower educated are least likely to use the Internet for educational and economic purposes, even when they have similar levels of Internet access and skills.

H5a: High educated people have higher creative skills
H5b: Higher educated people use the Internet to find job opportunities

Length of experience is often mentioned as a direct competitor to the effect of education in predicting Internet usage types (e.g. Eastin and LaRose, 2000; Gil-Garcia et al., 2006; Hargittai and Hinnant, 2008; Livingstone and Helsper, 2007). It can be described as a useful predictor of which activities people engage with online (Howard et al., 2001; Zillien and Hargittai, 2009). This conclusion is linked to what recent research showed that the more people experience Internet, the faster to adopt and learn new technological skills (Mariën & Prodnik, 2014). In this research we will use; gender, age, education, income, employment status, frequency, location, and Internet experience. Based on the previous literature, the following hypotheses are assumed.

H6a: People with higher Internet experience have positive attitude towards Internet
H6b: People with higher Internet experience have higher Internet skills
H6c: People with higher Internet experience use the Internet for Economic purposes

3. METHODOLOGY AND SAMPLING

In this section the methodology will be described: the sample, the measures and analysis of the main study.

3.1 Sample

Online and offline surveys were conducted in Cuba over a period of four weeks in June 2016. The target group of this study was young people with at least six months of Internet experience both from inside and outside the capital. The participants by some measure may be considered privileged; however, they live under similar economic conditions to those who do not have Internet access. Snowball sampling then was used, by asking the initial and second-wave contacts to refer the researcher to additional participants. This method of sampling was the only one possible due to legal restrictions. Although this target does not represent the general population of Cubans, it does represent the younger digital generation. Based on the demographics and attitudinal questions asked in the survey, we hope it might be possible to construct profiles for this next generation of Internet users.

The survey was built using the online survey software onlineencuesta.com. Invitations were sent out in three different ways. First, via email, second, via social media a platform such as Facebook. Also, an offline sampling was conducted in the first week

of June in a Wi-Fi park. The time required to answer the survey questions was approximately 15 minutes. Some procedures were taken to increase the response rate. The length of the survey was adapted to reduce the time needed to answer the questions. The online survey used specific software (onlineencuesta.com) that checked for missing responses. Pre-test was made before launching the final survey version to provide feedback. A total of 106 online surveys were collected via onlinencuesta.com of which 22 were rejected due to incomplete responses. A total of 22 offline-completed surveys were collected, this gives us a total of 106 completed responses (N=106). The mean age of the respondents was 28.8 (SD=7.3) and the sex proportion was 57.5% female and 42.5% male. Most of the respondents had a high educational level (69%) and 73% owned a computer Respondent's location proportion is 64% capital and 36% province. Table 1 summarizes the respondents' demographic profile.

Table 1. Demographic profile of the respondents

Characteristics		**N**	**%**
Gender			
	Female	61	57.5
	Male	45	42.5
Age			
	15-29	71	67.0
	30-39	26	24.5
	40-49	6	5.7
	50+	3	2.8
Educational level			
	Medium	16	15.1
	Superior	74	69.8
	Postgraduate	16	15.1
Income			
	10-20	37	34.9
	21-30	16	15.1
	31-40	14	13.2
	40+	24	22.6
	I rather no say	15	142
Occupation			
	Employed	99	94
	Unemployed	7	6
Internet Experience			
	1-4 years	21	19.8
	5-9 years	55	51.9
	10-14 years	21	19.8
	15+	9	8.5
Frequency			
	Frequent	89	83
	Less Frequent	17	7
Location			
	Urban	68	64.2
	Rural	38	35.8

Note: (N=106)

3.2 Measures

According to the research question and hypotheses formulated at the beginning of this report, the survey asked about socio-demographics, attitude towards Internet, physical access, Internet skills and types of Internet usage. The last two elements were measured using an instrument suggested by Van Deursen.

Attitude towards Internet was measured by an instrument from Durndell & Haag (2002). A 5 point scale: strongly disagree - strongly agree for the following affirmations; Internet dehumanises the society, the Internet is responsible for so many good things, life is easier and faster through the Internet, feel uncomfortable by the Internet because I do not understand well, people are increasingly enslaved by the Internet, our lives will soon be dominated by the Internet, excessive Internet use is harmful to humans, the Internet will increase the standard of living. A factor analysis was conducted to validate the attitude construct. The first analysis extracted three components above 1 Eigenvalue. During several steps, a total of five items were eliminated because they did not contribute to a simple factor structure and failed to meet a minimum criteria of having a primary factor loading of .4 or above (Hair et al., 2006). After the factor analysis, an internal consistency analysis was run to test for the reliability of the scale. Cronbach´s alpha coefficients turned out to be sufficient with a .70 score. The final factor analysis is presented in table 2.

Table 2. Factor Analysis for Attitude towards Internet

Items	***Factor loadings***	***α***
The Internet is responsible for many good things	.887	.70
Life is easier and faster thanks to the Internet	.854	
The Internet increases the standard of living	.661	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Access was measured by the place where respondents use Internet. Five options were given, at home, at work, at school, on the move or somewhere else. *Type of connection* was measured by the question “How do you currently access the Internet?” Five options were given, Regular "dial-up" telephone line, DSL Line, Cable Modem and I don't know.

Internet skills were measured by use of the ISS (Van Deursen et al., 2016). We measured operational skills, information navigation, social skills and creative skills and a 5-point scale (‘Not at all true of me’,‘ Not very true of me’,‘ Neither true nor untrue of me’,‘ Mostly true of me’, and‘ Very true of me’). Table 3 summarizes the descriptive and Cronbach´s alpha.

Table 3: Descriptive and Cronbach´s alpha for the Internet Skills

		α	*M*	*SD*
Operational		**.85**	4.6	.70
	I know how to open downloaded files		4.6	.89
	I know how to download/save a photo I found online		4.74	.65
	I know how to use shortcut keys (e.g. CTRL-C for copy, CTRL-S for save)		4.50	1.0
	I know how to open a new tab in my browser I know how to bookmark a website		4.82	.62
	I know where to click to go to a different webpage		4.37	1.1
Information Navigation		**.81**	3.96	.574
	I find it hard to decide what the best keywords are to use for online searches		4.31	1.045
	I find it hard to find a website I visited before		4.57	.817
	I get tired when looking for information online		4.53	.665
	Sometimes I end up on websites without knowing how I got there		2.68	1.239
	I find the way in which many websites are designed confusing		3.73	1.065
Social		**.82**	4.53	.561
	I know which information I should and shouldn't share online		4.39	.811
	I know when I should and shouldn't share information online		4.45	.719
	I am careful to make my comments and behaviours appropriate to the situation I find myself in online		4.49	.939
	I know how to change who I share content with (e.g. friends, friends of friends or public)		4.66	.660
	I know how to remove friends from my contact lists		4.66	.729
Creative		**.74**	3.14	.964
	I know how to create something new from existing online images, music or video		4.01	1.223
	I know how to make basic changes to the content that others have produced		3.39	1.335
	I know how to design a website I know which different types of licences apply to online content		2.66	1.379
	I would feel confident putting video content I have created online		2.40	1.255
	I know which apps/software are safe to download		2.40	1.172
	I am confident about writing a comment on a blog, website or fórum		2.45	1.234
	I would feel confident writing and commenting online		3.25	1.254

Note, Five point scale ranging from 1 (*Not at all true of me*) to 5 (*Very true of me*). *N* = 106.

Type of usage was measured by the instrument developed by Helsper et al. (2016). Uses were measured in four fields; economic, cultural, social and personal. Each field has its own sub-scale. From the economic field we measured the following sub-scales; property, employment, and education. We decided to skip the finance sub-scale due to the political and economic situation in Cuba. From the cultural scale, we used all the sub-scales; identity and belonging. From the social field all the sub-scales were measured (personal, formal and political networks). The last field was measured by all the sub-scales; health and lifestyle, self-actualization and leisure. For each sub-scale

the scale score was: Never (1) Less than Once a Month (2) Monthly (3) Weekly (4) Daily (5) Several times per day (6) Don't know (7). Table 2 shows the descriptive and the internal consistency. See Table 4.

Table 4. Descriptive statistics and Cronbach´s alpha of type of usage

		α	*M*	*SD*
Economic	*Property*	**.74**	1.63	1.09
	Look for information on how to sell something you own		1.80	1.32
	Respond to people's requests for information about a product or service you want to sell		1.48	1.03
	Put a product up for sale		1.62	.941
	Employment		2.72	1.68
	Integrate tools or apps you have downloaded into the way you work		3.26	1.85
	Look for a different job online		2.46	1.65
	Talk to others online about job opportunities		2.44	1.67
	Education		2.59	1.50
	Look for information about a course or course provide		2.73	1.48
	Check others' opinions about a course or place to study		2.34	1.44
	Download course materials		2.71	1.60
Cultural	*Identity*	**.68**	3.15	1.70
	Come across information about differences between men and women		3.26	1.80
	Come across 'adult' sites with sexual content		2.05	1.41
	Interact with people who share your ethnicity		4.14	1.89
	Belonging		2.46	1.53
	Read information on parenting		2.66	1.69
	Arrange with other people to go out		3.09	1.72
	Log in on a website with religious or spiritual content		1.64	1.18
Social	*Personal network*	**.82**	4.52	1.12
	Comment on the updates friends or family put online		4.55	1.18
	Talk to family or friends who live further away		5.00	1.01
	Share pictures of you with your family or friends		4.02	1.19
	Formal network		3.59	1.66
	Look for information (online or offline) on clubs or societies		2.78	1.77
	Interact with people who share your personal interests and hobbies		4.16	1.47
	Comment about a political or societal issue		3.84	1.76
	Political network		2.46	1.67
	Look for information about national government services		1.93	1.64
	Ask a representative of a public institution for advice on public services		3.16	1.66
	Look for information about an MP, local councillor, political party or candidate		2.31	1.72
Personal	*Health and lifestyle*	**.74**	2,92	1.51
	Talk to others about your lifestyle		3.48	1.65
	Look up information on how to improve your fitness		2.65	1.53
	Ask others about a training program		1.95	1.38
	Self actualization		3.89	1.32
	Exchange information about events or concerts with others		3.23	1.35
	Look up information to understand problems or issues that interest you		4.41	1.15
	Consult others' opinions on problems or issues that interest you		4.04	1.48
	Leisure		2.31	1.22
	Play games		1.34	.904
	Listen to music		2.76	1.76
	Watch videos/ TV programs		2.85	1.62

Note, Seven point scale ranging from 1 (*Never*) to 7 (*I don´t know*). *N* = 106.

Age was measured by asking respondents to write down the day of birth. *Gender* was included with three options; male, female or rather not say. *Education* variable was measured by middle school, high school, bachelor's degree, and postgraduate studies. *Residency* was coded as a dichotomous variable, urban or rural. *Occupation status* was asked, "Which of these descriptions best describes your current situation?" answers were as the following groups: full time, working time, retired, disabled, social

service, student and unemployed. *Internet experience* was measured as the number of years that people have been using the Internet. The following 5 groups; 10-20 CUC, 20-30 CUC, 30-40 CUC, more than 40 CUC, and prefer no answer were questions to measure the monthly *income.*

Internet experience was measured by three open questions; on average how many hours per day do you use Internet? How many hours per week do you use Internet? How long have you been using Internet? *Type of device* was measure by four options; desktop, laptop, tablet, smartphone, mobile phone. *Frequency* was coded with the following groups; once pert month, 2-3 times per month, 2-3 times per week, 1-2 times a day and more than 2 times a day.

Once the missing values were checked, the results of the questionnaire were analysed with SPSS (Statistical Package for Social Science). First, the internal consistency of the survey was examined. Internet skills scale has a total of 20 items divided by four categories: Operational, Information navigation, Social and Creative. Table 2 summarizes the descriptive statistics and internal consistency of each cluster. Each cluster of Internet skills demonstrated a high internal consistency from .85 to .74.This scale has 20 items. After that, the same procedure was repeated with the scale of Internet type of usage, the highest Cronbach's Alpha score was .74 and the lowest .68. The lowest internal consistent cluster scored.68. This scale has a total of 33 items with four classifications: Economic, Culture, Social and Personal. Table 3 shows the distribution and internal consistency of the entire element.

3.3 Data Analysis

Multiple regression analyses were conducted in order to test the hypotheses mentioned in the theoretical framework section. A regression analysis is a statistical process for approximating the relationships between variables and aids to understand how values of the dependent variable (attitude, skills and type of Internet usage) changes when anyone of the independent variables (location, Internet experience, age, gender, occupation, income, frequency) is varied, while other independent variables are assumed fixed.

4. RESULTS

This section contains the analyses that have been described in the previous section. Firstly, the results about the first digital divide; attitude and physical access will be explained. Secondly, the outcomes of the second digital divided; Internet skills and types of Internet usage. Finally, the results of the socio demographics analyses will be showed.

4.1 First level digital divide: attitude

To statically test the relation between attitude towards Internet and the socio-demographic variables, a stepwise linear regression was run to predict attitude towards Internet from, gender, age, educational level, income, employment status, Internet experience, frequency and location. Results show that only *Internet experience*

statistically significantly predicted attitude towards Internet. Therefore, hypothesis H2a is rejected. Table 5 shows the result of the multiple regression analysis.

Table 5. Multiple regression for Attitude towards Internet

Explanatory variables	*B*	*SE*	*β*
Sex			
Male	*.119*	*.117*	*.117*
Age (reference: 15-29)	*.010*	*.009*	*.096*
Educational level (reference: medium educational level)			
Superior	*.028*	*.168*	*-.092*
Postgraduate	*-.205*	*.212*	*-.214*
Income (reference: 10-20 CUC)			
20-30	*.084*	*.161*	*.059*
31-40	*.144*	*.175*	*.073*
41+	*.293*	*.143*	*.201*
Employment status (reference: Employed)	*-.506*	*.285*	*-.205*
Internet experience	*-.272*	*.080*	***.403****
Frequency *(reference: Frequent)*	*-.030*	*.165*	*.024*
Location (Urban/Rural)	*.009*	*.115*	*-.019*
R2			.214
Adj. R2			.120
F			2.272**

4.2 First level digital divide: physical access

Figure 1 suggests that desktops are the most used devices following by mobile phones. Tablets seem to be the least used devices. In order to see if there is a statistically relationship between type of devices as dependent variables and socio demographics as independent variables, a stepwise analysis was run. Table 6 shows the outcome of the analysis. Results demonstrate that only desktops, laptops and mobile phones are positive related to socio demographic variables. This suggests that owing a tablet has nothing to do with the socio demographics used in this study. Therefore, hypothesis H3a is accepted.

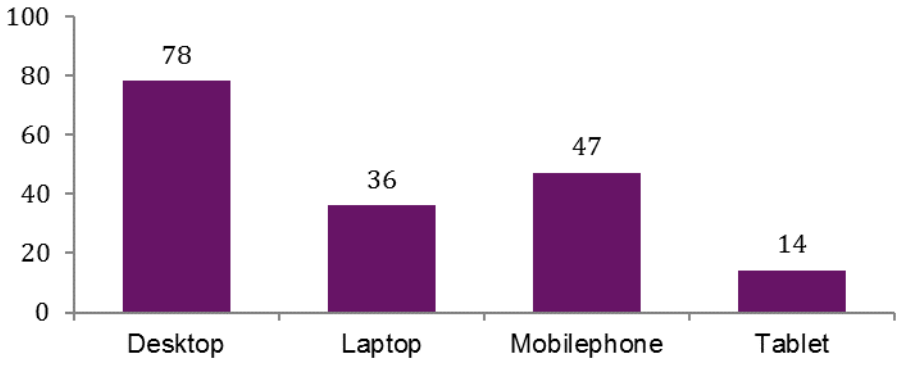

Figure 1: Type of devices.

Also, to understand more about the physical access in Cuba, it is important to know how many devices one person has. Figure 2 illustrates that the majority of the respondents use one device to connect to Internet.

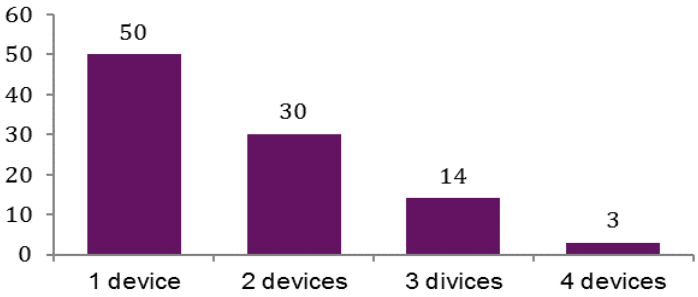

Figure 2: Number of devices per person.

Table 6. Multiple linear regression analysis with four types of devices as dependent variables

	Desktop	***Laptop***	***Mobile***	***Tablet***
Explanatory variables	***β***	***β***	***β***	***β***
Sex Male	-.039	-.027	-.127	-.085
Age	-.119	-.212	-.196	-.080
Educational level (reference: low educational level)				
Medium educational level	**.311***	-.225	-.75	-.181
High educational level	**.311***	-.157	**-.300***	-.117
Income (reference: 10-20 CUC)				
20-30	-.100	.165	-.084	.074
31-40	-.015	.013	.034	-.037
41+	**-.248***	**.257****	**.329***	.040
Employment status (reference: Employed)	.-170	-.210	.074	-.015
Internet experience	-.009	**.273***	.191	.188
Frequency *(reference: Frequent)*	-.052	.054	-.193	.221
Location (Urban/Rural)	.104	-.138	-.058	-.097
R2	.215	.198	.226	.103
Adj. R2	.123	.103	.134	-.003
F	**2.322***	**2.091***	**2.462***	.968

*Significant at the 5% level, **significant at the 1% level, ***significant at the 0.1% level

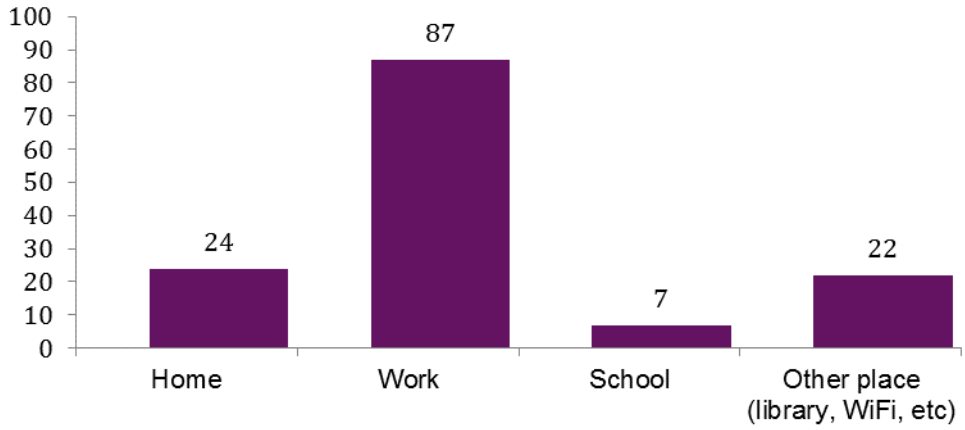

Figure 3: Places to connect to Internet.

A stepwise linear regression was run to test statistically the relationship between places where people connect to Internet and socio demographics. First of all the places where incorporated in the analysis as dependent variables. Henceforth, gender, age, educational level, income, employment status, Internet experience, frequency and location as independent variables. Table 7 presents the results from the multiple regressions. It appears that work and school are strongly associated with socio demographics. This suggests that other factors determine the use of Internet at home and other places.

Literature suggests that the type of connection is another indicator of the quality of Internet access. Figure 4 shows that the majority of Internet access is broadband connection (Van Deursen & Van Dijk, 2014).

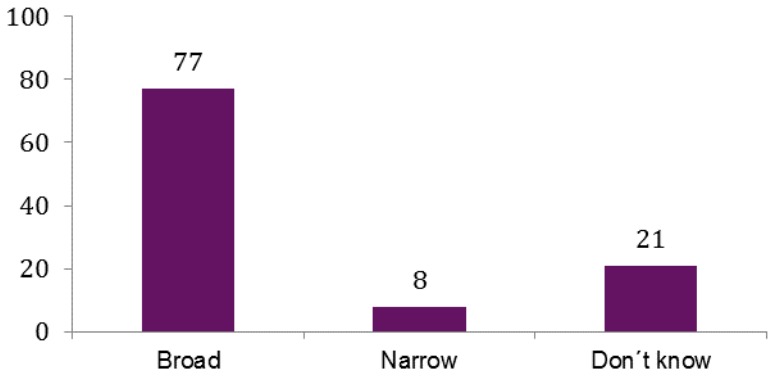

Figure 4: Type of brand connection to Internet.

***Table 7**. Multiple linear regression analysis with four places to connect to Internet as dependent variables*

	Home	***Work***	***School***	***Other***
Explanatory variables	***β***	***β***	***β***	***β***
Sex				
Male	*-.034*	*.084*	*.007*	*-.071*
Age	*.073*	*-.120*	***-.278****	*.031*
Educational level (reference: low educational level)				
Superior	*-.272*	***.388****	*.057*	*-.304*
Postgraduate	***-.351****	***.340****	*.185*	*-.256*
Income (reference: 10-20 CUC)				
20-30	*.066*	*.039*	*-.027*	*-.060*
31-40	*-.069*	*.091*	*-.050*	*-.075*
41+	*.070*	*-.087*	*.183*	*.190*
Employment status (reference: Employed)	*-1.81*	*-.158*	***.381****	*.023*
Internet experience	*.184*	*-.078*	*.222*	*.091*
Frequency *reference: Frequent)*	*-.040*	***-.372****	***.241****	*.125*
Location (Urban/Rural)	*-.078*	*.073*	*.021*	*.042*
R2	.130	.458,	.299	.127
Adj. R2	.026	.391	.217	.024
F	1.248	**6.901****	**3.614****	1.235

*Significant at the 5% level, **significant at the 1% level, ***significant at the 0.1% level

4.3 Second level digital divide: Internet skills

In order to answer the question of what levels of Internet skills do Cubans have. The means scores summarized in figure 2 explains the answer to that question. The figure 5 shows that highest participant´s Internet skills are Operational and Social skills.

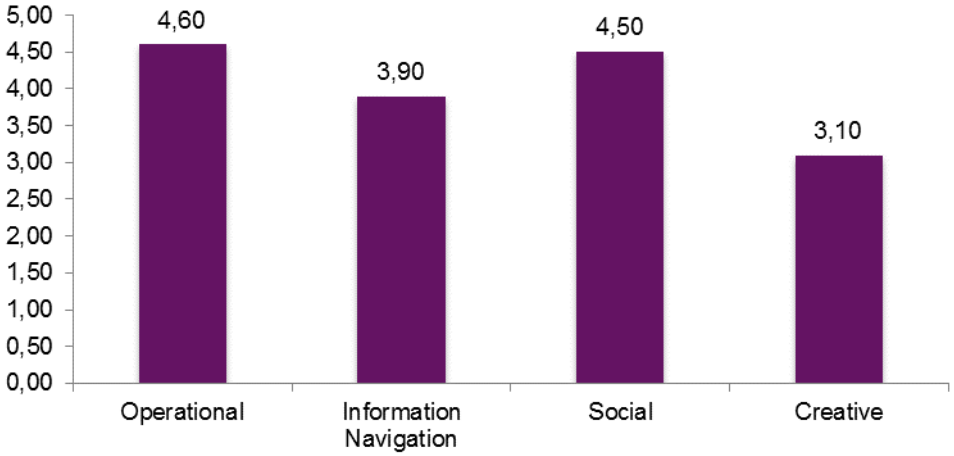

Figure 5: Mean scores of Internet skills

Based on the digital skills literature, there is a positive relation between having high Internet skills and socio demographics. Consequently, multiple regressions were run to statistically test the relationship between Operational skills, Information navigation, Social and Creative with location, gender, educational level, age, occupation, income and frequency. Table 8 summarize the outcomes from the analyses. Results show that

there is a strong relationship between Operational, Social and Creative skills with socio demographics variables. Information navigation skills have a positive relation with age and frequency but not as a whole model.

Table 8. *Multiple linear regression analysis with four Internet skills as dependent variables*

	Operational	***Information***	***Social***	***Creative***
Explanatory variables	***β***	***β***	***β***	***β***
Sex				
Male	-.125	.087	-.080	.051
Age	**-.354****	**-.250***	**-.285***	-.060
Educational level (reference: low educational level)				
Superior	.116	.100	-.022	-.041
Postgraduate	.197	.072	-.007	.128
Income (reference: 10-20 CUC)				
20-30	-.030	-.050	-.146	.024
31-40	-.001	-.062	-.111	-.078
41+	-.042	-.099	-.052	-.082
Employment status (reference: Employed)	.057	-.194	.021	-.007
Internet experience	-.023	.155	.042	.003
Frequency (reference:Frequent)	**-.452*****	**-.214*****	**-.322****	**-.414*****
Location (Urban/Rural)	.081	.006	.119	.004
R2	.347	.119	.194	.195
Adj. R2	.270	.015	.108	.099
F	4.493***	1.140	2.264***	2.029**

4.4 Second level digital divide: Internet Usage

To analyse what do Cubans do on the Internet, a comparison of means in figure 6 shows the answer to that question. What strake in this figure is that people use the Internet for Social reasons (M= 3.53), then, for Personal reasons (M=2.97) and for Cultural reasons (M= 2.81). In figure 7, more detailed information can be analysed. Here the figure shows that the highest score inside the Social category is personal subcategory. The highest score into Personal category is self-actualisation subcategory.

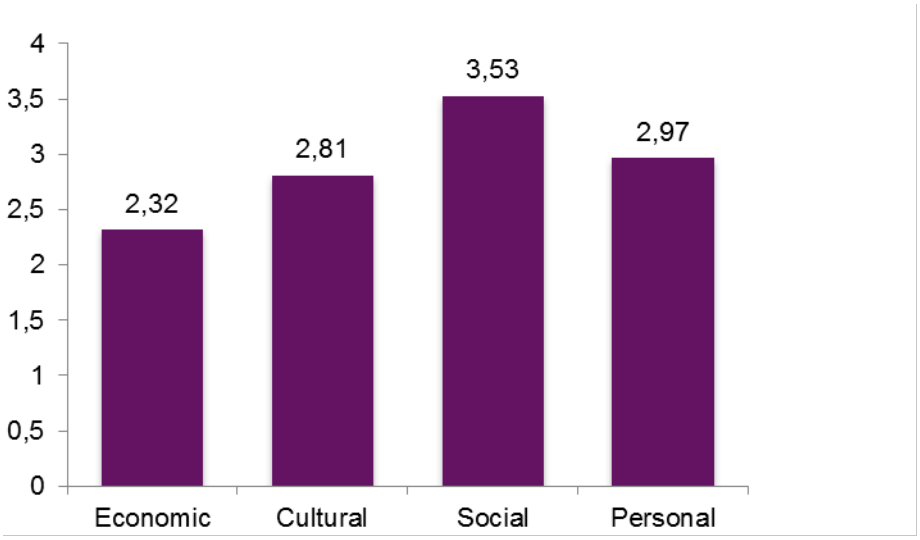

Figure 6: Mean scores of Type of Internet usage.

Figure 7: Mean scores of Type of Internet usage.

To statistically test the relation between the types of Internet usage and the socio-demographics variables, linear regression analyses were conducted to predict type of Internet usage, which includes Economic, Cultural, Social and Personal as dependent variable and location, gender, educational level, occupation, income, age and frequency as independent variables. Table 9 summarize the outcome of the analyses.

Results from the table show that the Economic type of usage has a positive relationship with Property (selling products online) and Employment (job opportunities and installing applications at work) subcategories. However, Education sub category (finding and downloading courses materials) is not related with any socio demographic variables.

Cultural type of usage only shows a positive relationship with Identity (information about men and woman and interaction with people from the same ethnicity). Belonging (parenting and religious information) sub category has not statistically significance