

DIGITAL INCLUSION AND ACCESS IN MARGINALIZED COMMUNITIES

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Abstract: *The digitalization of modern life has reshaped the way the public accesses information and knowledge. However, not everyone seems to be reaping the benefits of the digital revolution. Questions of social inequality in the digital world have been raised as many marginalized communities lack access to digital tools. This study explores the multifaceted issue of the digital divide resulting from the introduction of new technologies in the everyday life of an individual. It aims to examine the state of digital inclusion in marginalized communities by evaluating the digital skills of their members as well as their access to digital devices and the internet. A quantitative approach is utilized by collecting data from 110 participants residing in the island of Lemnos. The study identifies the root causes that prevent digital inclusion such as affordability, lack of digital skills and infrastructure. The findings provide a clearer understanding of how these barriers widen the digital divide and offer recommendations for promoting digital inclusion.*

Keywords: *social inequality; digital inclusion; marginalized communities*

INTRODUCTION

In the contemporary world, social participation is highly dependent on new technologies and for social equality to be achieved, access to the internet and the latest technological devices is required. Especially during the Covid-19 pandemic, most of social life was transferred into the digital sphere. Since then, there has been an important growth in the use of new technologies for the execution of everyday tasks resulting in a digital revolution. However, there is still a significant proportion of the population that continues to face barriers to accessing the digital world.

The term 'digital divide' is used to refer to the gap being created among people of different backgrounds with regard to their ability to access new technologies. The digital divide emphasizes the differences noted in accessibility across various socio-economic groups, regions and demographics. Moreover, the digital divide has become one of the greatest challenges in modern societies for the social inequalities that it fosters. Social inequalities that result from the digital divide can undermine opportunities that may arise in the field of education, employment or healthcare (Baraka 2024) and it can affect both individuals and communities.

This paper explores the state of digital inclusion in marginalized communities by examining the barriers that lead to the digital divide and the far-reaching consequences on the various fields of social life in the digital age. In addition, emphasis is being placed on the extent to which members of marginalized communities have been trained in the use of new technologies and suggestions with regard to bridging the divide are provided.

RESEARCH METHODOLOGY

This study employs a quantitative research design and a short-scale survey was conducted to collect data regarding participants' access to the internet and digital devices as well as their digital skills. Moreover, the barriers preventing their participation in the digital world were examined. The survey further examined the impact of digital exclusion on participants' engagement in the fields of education, employment and medical care.

A total of 110 participants, aged 18 and above, residing in the island of Lemnos, which is located in northern Aegean, were surveyed. To ensure diversity in the sample, stratified random sampling was selected as a method to capture a range of demographic characteristics such as age, gender and employment status. For data to be collected, a questionnaire consisting of thirteen cloze-ended questions and one open-ended question was distributed in printed form in the mother tongue of the participants. The questionnaire covered a range of topics related to internet connectivity, digital device ownership, barriers to accessing digital tools, participants' digital skills and training as well as the impact of digital exclusion on their daily lives. To be specific, participants were asked to note whether they have internet access at home and the type of internet connection available. Also, they were asked to select the devices used to access the internet as well the reasons for connecting online. Participants further had to note the frequency of their internet connectivity and the main barriers they encounter in accessing digital devices and the internet. Furthermore, participants were asked to evaluate their digital skills and state whether they have ever received any digital training. They were additionally asked to evaluate the importance of digital skills in various fields of everyday life and reflect on whether they have lost any opportunities because of lack of digital skills and access to new technologies. Participants in responding the open-ended question had to express their opinion on how digital access could be improved in their community.

Data from the survey was analyzed by making use of descriptive statistics to identify patterns and percentages. For the analysis of the data gathered from the open-ended question, the content analysis method was used. Words and phrases were extracted from the answers of the participants to derive codes. Then, these codes were put into categories bearing in mind the way in which they are connected.

RESULTS

The study findings suggest that members of marginalized communities have limited access to digital resources. Concerning the participants of the study, 52.7% are male while 47.3% are female. The majority are under the age of 44 with a percentage of 60%. With regard to their education status, 45.5% of the participants hold a university degree, 43.6% a high school diploma and a mere 10.9% have a master's degree. As for their employment status, 54.5% are employed, 15.5% are university students, 19.1% are unemployed and 10% have retired. Though most of the participants are employed, a significant percentage (67.35%) have a monthly household income below 1000€ while 30.9% stated that their monthly household

income is between 1000€-2000€. These numbers reveal that the majority face significant economic challenges in their daily life given the high cost of life in the island regions of Greece.

When asked about internet access, 68.2% of the participants reported having access to the internet at home. Among those having internet access, the vast majority stated that they use their mobile data at home when they wish to access the internet and solely 29% have home internet service. Regarding the devices being used, the most popular is the mobile phone, however, a small percentage of the participants, predominantly seniors, stated that they do not own a digital device (Fig. 1).

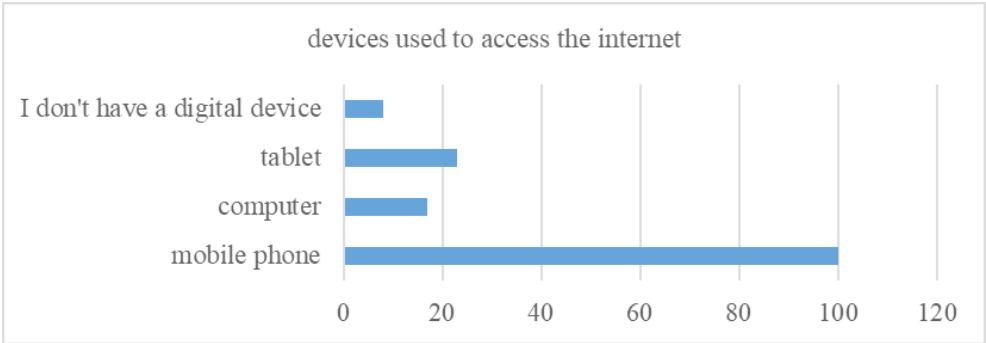


Fig. 1. Devices used to access the internet

Concerning the frequency of access to the internet, most participants access the internet once or multiple times a day. However, there is a small number of participants, who do not access the internet at all (Fig. 2).

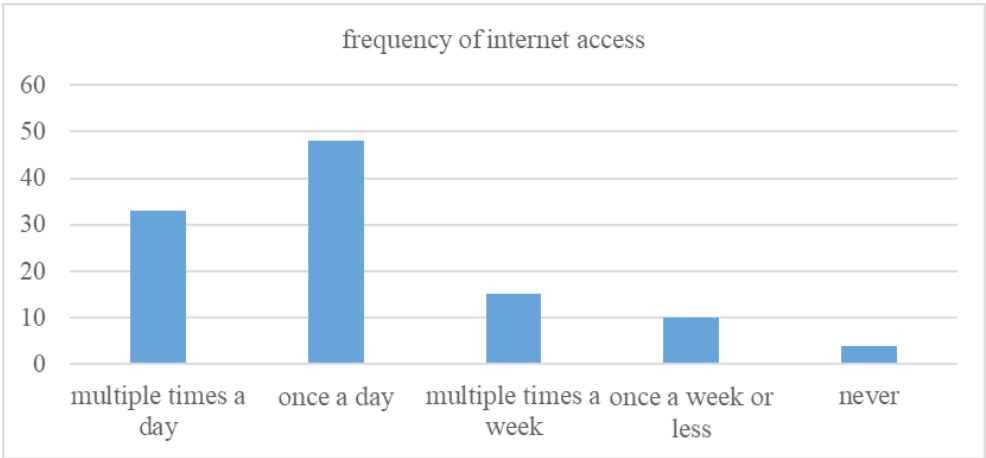


Fig. 2. Frequency of internet access

Participants stated that there are multiple reasons why they use the internet and digital devices, but most importantly for work/employment and communication or entertainment purposes (Fig. 3).

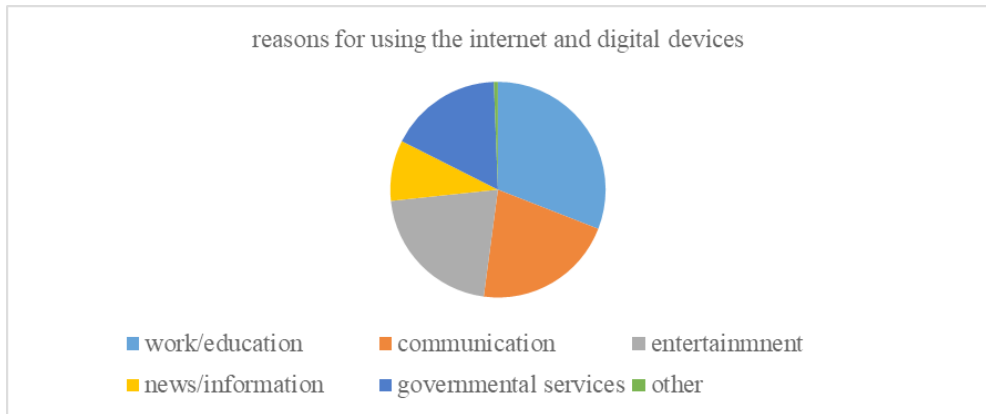


Fig. 3. Reasons for using the internet and digital devices

The study also examined key barriers to digital access. The cost of internet subscriptions and digital devices was the most commonly cited challenge followed by poor infrastructure including poor internet service and unreliable internet connectivity. Other barriers included lack of digital skills to use digital devices effectively. Also, some participants reported that they have no internet access in the area where they reside (Fig. 4).

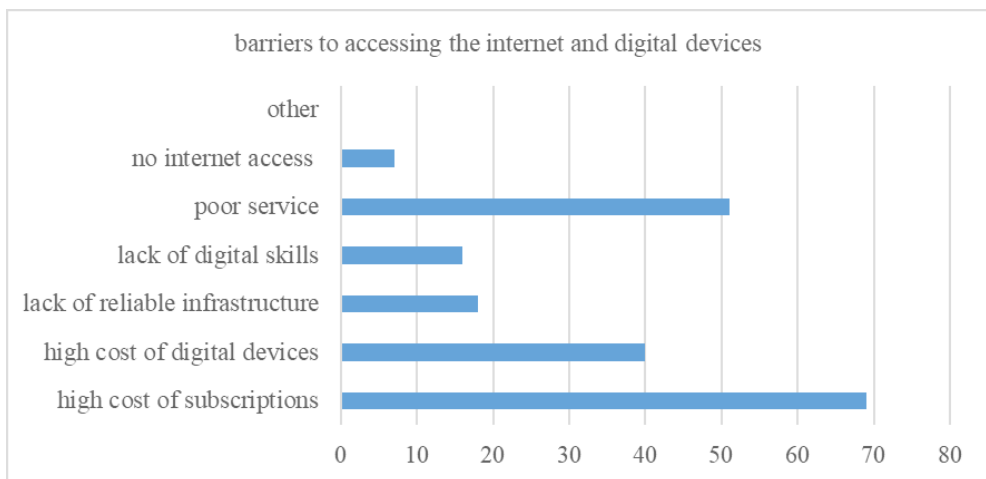


Fig. 4. Barriers to accessing the internet and digital devices

As for the digital skills of the participants, the majority esteem that their digital skills are at a basic or beginners level and solely 5.5% believe that they have advanced digital skills. There is also a percentage of the participants that claims not to have any digital skills at all (Fig. 5).

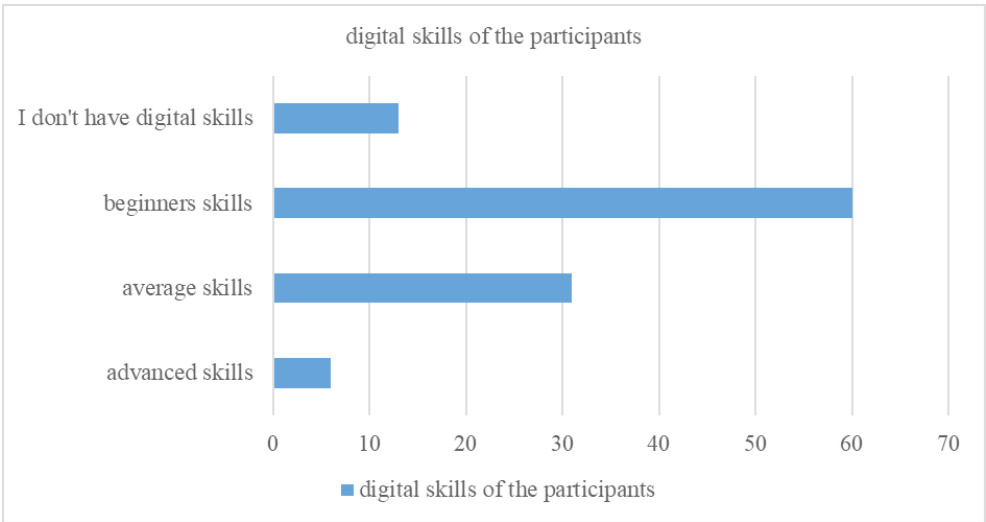


Fig. 5. Digital skills of the participants

Regarding participants’ attending training courses related to digital skills, 69.1% of the participants have never had any training and among those who have received training, they have learned how to use digital devices in their school environment. Most participants acknowledge the importance of having digital access and skills and they esteem that their lack can undermine their opportunities in their daily lives (Fig. 6).

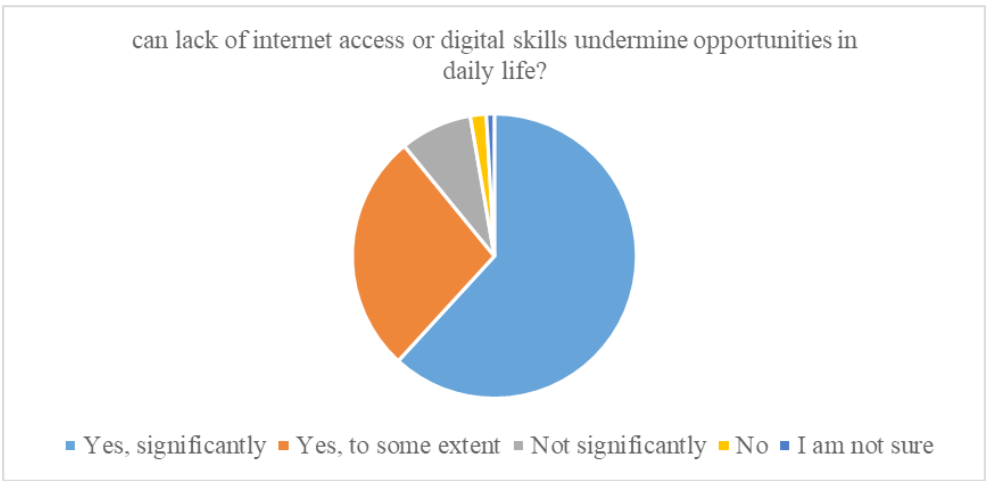


Fig. 6. Can lack of internet access or digital skills undermine opportunities in daily life?

Digital exclusion is found to have significant consequences for participants' lives. More specifically, it is reported that it has mostly restricted their opportunities in the field of employment. However, a significant percentage of the participants is not sure about the negative consequences of digital exclusion in their lives and some claim not to have been affected by lack of digital access at all (Fig. 7).

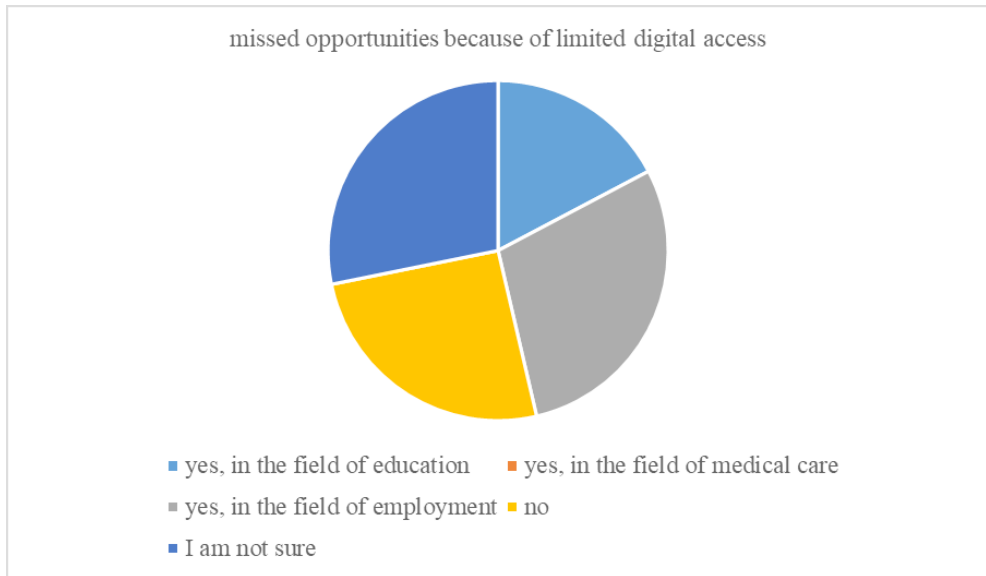


Fig. 7. Missed opportunities because of limited digital access

Participants when reflecting on measures that could ameliorate digital access in their community stated that free digital devices and free internet should be provided to its members. Reducing the cost of devices and fees for internet connections were among the most popular responses. Other responses included the improvement of the quality and speed of internet service as well as the organization of free digital training courses for the members of their communities.

DISCUSSION

The findings of the study suggest that members of marginalized communities encounter multiple challenges in accessing the digital world. Firstly, affordability constitutes the primary barrier that individuals and communities face. The cost of internet connections and digital devices has increased to such an extent that individuals lacking the financial resources are not able to purchase the technological equipment which is necessary to connect to the digital world. Thus, the digital divide is widened and equal participation in the digital world is rendered almost impossible. Without sufficient financial resources, individuals face digital exclusion and socio-economic disparities further perpetuate. Poor infrastructure also plays a significant role in sustaining the digital divide since especially in rural and remote

areas it is often the case that internet service coverage is inconsistent and unreliable. As a result, individuals face significant challenges in accessing the digital world. The lack of digital literacy and training in the use of new technologies is another important issue since many individuals, especially senior citizens, are not able to use digital resources effectively most probably because of their unfamiliarity with technological devices. Digital literacy, though oftentimes underestimated, can have serious repercussions on widening the digital divide and fostering social inequalities. Having access to the internet is not suffice should individuals not possess digital skills (Baraka 2024).

The digital divide has far-reaching implications for individuals and societies since barriers to accessing essential services are being placed. For instance, in the field of education, students without access to new technologies are deprived of their right to education as especially after the Covid-19 pandemic, there has been a dramatic shift to digital learning (Brown, Smith, and Patel 2021) and much of the information required to cope with their studies is only available digitally. Generally, information and communication technologies have assisted both teaching and learning since several courses are now solely accessible via digital platforms. However, students originating from low-income backgrounds because of the increasing costs of internet connections and the lack of technological equipment are not able to have access to quality education (Anderson 2024). Moreover, students residing in underprivileged areas cannot succeed academically because of restricted access to new technologies (Anwar Ainin 2025). In the field of employment, digital exclusion can perpetuate existing inequalities by preventing certain individuals from having access to job opportunities. For instance, LinkedIn has transformed the way in which companies interact with prospective employees. This platform serves as a starting point for individuals to become visible to companies, even to those located in distant locations, and thus, it assists them broaden their professional network and increase their employment opportunities. Any individual not possessing digital skills or having access to new technologies encounters difficulties becoming a competitive professional, thus becoming further marginalized and excluded from economic prosperity (Karaoglu, Hargittai, and Nguyen 2021).

The results of the study highlight the urgent need for policy interventions to eliminate the digital divide. Policies that aim at reducing the cost of technological equipment and the monthly fees of internet service are expected to bridge the divide (OECD 2015). Additionally, it is believed that the authorities should invest in infrastructure so as to ensure that all communities have access to high speed internet without problems of connectivity. Training courses are also expected to ensure equitable access to the digital world as enhancing the digital skills of individuals will signify that they will be able to reap the benefits of new technologies to a greater extent.

CONCLUSION

Digital exclusion is a rather complex issue that results from an amalgamation of factors. The study conducted revealed that despite advancements in technology, disparities in digital access in marginalized communities are common. The repercussions of the digital divide are extensive as members of marginalized societies are denied their right to access information, education or employment as the current study suggests. The findings of the study highlight the fact that the high cost of devices and internet connections as well as poor infrastructure and lack of training on the use of new technologies consist significant barriers that prevent individuals from fully participating in the digital world. As a result, this study findings underscore the necessity for targeted policy interventions in order to address the root causes of the digital divide. By promoting digital inclusion, all individuals, regardless of their background, will be granted equal opportunities and will all profit from the benefits that the digital age offers. However, there are limitations to this study that must be acknowledged as it is a short-scale study focusing on a specific region in Greece. The study findings, though offering valuable insights, may not be fully representative of all contexts. Future studies could be carried out with a larger sample size across various geographical locations and could examine in more depth the role of age or education level in digital inclusion and access.

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ЦИФРОВО ПРИОБИЩАВАНЕ И ДОСТЪП В МАРГИНАЛИЗИРАНИ ОБЩНОСТИ

Резюме: Цифровизацията на съвременния живот промени начина, по който обществото получава достъп до информация и знания. Изглежда обаче, че не всички се възползват от предимствата на цифровата революция. Повдигат се въпроси за социалното неравенство в цифровия свят, тъй като много маргинализирани общности нямат достъп до цифрови инструменти. В настоящото изследване се разглежда многостранният въпрос за цифровото разделение в резултат на въвеждането на новите технологии в ежедневието на отделния човек. То има за цел да проучи състоянието на цифровото приобщаване в маргинализираните общности чрез оценка на цифровите умения на техните членове, както и на достъпа им до цифрови устройства и интернет. Използван е количествен подход чрез събиране на данни от 110 участници, живеещи на остров Лемнос. Проучването идентифицира основните причини, които възпрепятстват цифровото приобщаване, като достъпност, липса на цифрови умения и инфраструктура. Констатациите дават по-ясна представа за това как тези бариери разширяват цифровото разделение, и предлагат препоръки за насърчаване на цифровото приобщаване.

Ключови думи: социално неравенство; цифрово приобщаване; маргинализирани общности

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