

Factors Affecting the Digital Divide Among Underrepresented Groups

Luis Hernandez

Universidad del Bío-Bío in Concepción.

RECEIVED
27 September 2022
REVISED
6 November 2022

Keywords: Digital Divide,
Underrepresented Groups, Economic Status,
Technology Affordability, Internet Service

ACCEPTED FOR PUBLICATION
8 February 2023
PUBLISHED
12 February 2023

Abstract

This study focuses on the factors affecting the digital divide among underrepresented groups. The digital divide refers to the gap between those who have access to digital technologies and those who do not, and this divide is not only a matter of access to technology but also of the ability to use it effectively. The research finds that economic status affecting the digital divide. Low-income families often cannot afford the technology necessary to participate in the digital world due to the high cost of devices, internet service, or lack of technical knowledge to use technology effectively. This study shows that location also plays a role in the digital divide. People who live in rural or remote areas often have limited access to high-speed internet, making it difficult to participate in online activities or access digital resources. The language barrier is also identified as a significant obstacle to digital access for non-native speakers. If content is not available in a language they understand, they may be unable to use it effectively. Age is another factor that affects the digital divide. Older adults may have difficulty navigating the technology needed to access digital resources. They may lack the skills necessary to use technology or be hesitant to adopt new technologies. People with disabilities may face barriers to digital access. Websites and technology may not be accessible for those with visual or hearing impairments, for example. The study also identifies discrimination as a significant factor contributing to the digital divide among underrepresented groups. Policies or practices that limit their access or harassment online that makes them feel unwelcome or unsafe are some of the forms of discrimination that these groups face.

Introduction

In recent years, digital technology has become a ubiquitous presence in our daily lives. It has revolutionized the way we communicate, work, learn, and access information. However, despite its numerous advantages, not everyone has equal access to digital technologies. This disparity in access is known as the digital divide, which has been a topic of concern for policymakers, scholars, and advocates. While the digital divide affects all individuals, underrepresented groups such as low-income families, rural residents, non-native speakers, older adults, people with disabilities, and minority groups are disproportionately affected.

This study aims to explore the factors that contribute to the digital divide among underrepresented groups and examine potential solutions to bridge the gap. We will examine

the key factors that contribute to this divide, including economic status, geography, language barriers, age, disability, and discrimination. We will also examine the implications of this divide on underrepresented groups and explore the potential consequences of limited access to digital technologies.

One of the primary factors affecting the digital divide is economic status. Low-income families often cannot afford the technology necessary to participate in the digital world. This can be due to the high cost of devices, internet service, or lack of technical knowledge to use technology effectively. As a result, low-income families may be unable to access essential services, job opportunities, or educational resources, limiting their social mobility and perpetuating the cycle of poverty.

People who live in rural or remote areas often have limited access to high-speed internet, making it difficult to participate in online activities or access digital resources. This lack of access can lead to social isolation and hinder opportunities for economic growth, education, and healthcare. For non-native speakers, language barriers can create significant obstacles to digital access. If content is not available in a language they understand, they may be unable to use it effectively. This can lead to limited access to critical information and services, such as healthcare or legal resources.

Older adults may have difficulty navigating the technology needed to access digital resources. They may lack the skills necessary to use technology or be hesitant to adopt new technologies. This can lead to social isolation, decreased quality of life, and limited access to healthcare and other essential services. People with disabilities may face barriers to digital access. Websites and technology may not be accessible for those with visual or hearing impairments, for example. This can limit access to education, employment, and social opportunities, leading to isolation and a lack of social mobility.

Underrepresented groups, such as people of color or LGBTQ+ individuals, may face discrimination that limits their access to digital resources. This can include policies or practices that limit their access or harassment online that makes them feel unwelcome or unsafe. This can have significant implications for social and economic mobility, leading to a lack of opportunities and exclusion from essential services.

The digital divide is a complex issue with multiple factors that contribute to its existence, particularly among underrepresented groups. Addressing these factors is necessary to ensure that all individuals have equal access to the benefits of digital technology. This study will explore these factors and examine potential solutions to bridge the digital divide, allowing underrepresented groups to fully participate in the digital world and have access to critical resources and opportunities.

Economic status

One of the primary factors contributing to the digital divide among underrepresented groups is economic status. Low-income families often lack the financial means to purchase the technology necessary to participate in the digital world. This can be due to the high cost of devices, internet service, or a lack of technical knowledge to use technology effectively. As the use of technology becomes increasingly important for education, employment, and social engagement, those without access to digital resources may be left at a significant disadvantage. The cost of devices such as computers, smartphones, and tablets can be prohibitive for low-

income families. Additionally, the ongoing expense of internet service can be a significant burden. In some cases, families may prioritize other necessities such as housing, food, and healthcare over digital technology. Furthermore, even if individuals do have access to technology, they may lack the technical knowledge to use it effectively. This can make it difficult to participate in online activities or take advantage of digital resources such as online job applications or remote learning opportunities. As such, addressing the economic barriers to digital access is crucial to ensure that underrepresented groups have the opportunity to fully participate in the digital world.

The economic barriers to digital access have broader implications for society as a whole. The digital divide can reinforce existing social and economic disparities by limiting access to education, employment, and other opportunities that are increasingly available only online. This can perpetuate cycles of poverty and inequality, further marginalizing underrepresented groups. In addition, lack of access to digital resources can limit the ability of individuals to participate in civic life, including accessing government services or participating in online political discussions. This can undermine democratic processes and limit the ability of marginalized communities to advocate for their rights and interests. As such, addressing the economic barriers to digital access must be a priority for policymakers and advocates seeking to promote social justice and equity. This may involve initiatives to provide low-cost or free devices and internet service, as well as efforts to increase digital literacy and technical skills among underrepresented groups. Ultimately, addressing the economic factors contributing to the digital divide is essential to ensuring that all individuals have the opportunity to participate fully in the digital world and to realize the many benefits that digital technology can offer.

Geography

People who live in rural or remote areas often face limited access to high-speed internet, making it difficult for them to participate in online activities or access digital resources. This lack of connectivity is often due to inadequate infrastructure, such as a lack of broadband cables or cell towers in these areas. The cost of building this infrastructure in remote areas can be high, and internet service providers may be hesitant to invest in areas where there are fewer potential customers. The physical distance between rural areas and urban centers can also contribute to the digital divide, as it can be more difficult to access resources like computer repair or training. This can be a particular issue for underrepresented groups who may already face economic or social barriers to access. In order to address the digital divide in rural areas, governments and internet service providers need to invest in building the necessary infrastructure and increasing access to digital resources. Efforts should be made to increase digital literacy and skills training in these areas to ensure that all individuals have the skills and knowledge necessary to take advantage of the benefits of digital technology.

The geography of a region can also impact the speed and quality of internet access, which is another important factor in the digital divide. In many remote or rural areas, internet speeds are significantly slower than in urban areas, and the connection may be more unreliable due to distance and infrastructure challenges. This can make it difficult for people to access online resources, communicate with others, or engage in online learning or job searching. This can be a particular problem for underrepresented groups, who may not have the means to travel to access these resources in person, or who may rely on online communication for social or professional connections. Remote areas may not have access to the same range of digital services or resources as urban areas, which can limit opportunities for education, employment, and personal development. In order to address these issues, governments and private organizations need to prioritize the development of high-speed internet infrastructure in remote

areas and ensure that it is accessible and affordable for all individuals. By doing so, they can help to bridge the digital divide and create more equitable access to the benefits of digital technology for underrepresented groups.

Geography can also play a role in the availability of digital devices and equipment. For example, people living in remote or rural areas may not have access to local stores that sell technology devices or repair services. This can make it difficult for individuals to purchase or repair devices that are essential for accessing digital resources, such as computers or smartphones. Furthermore, the cost of purchasing these devices can be higher in remote areas due to transportation costs and lack of competition. As a result, individuals in underrepresented groups who live in these areas may struggle to afford the necessary technology to participate in the digital world. This can put them at a disadvantage when it comes to accessing educational resources, job opportunities, and social connections. Thus, addressing the issue of geography in the digital divide requires not only improving the internet infrastructure but also making technology devices and repair services more accessible and affordable to individuals in remote or rural areas. This can be achieved through initiatives such as subsidizing the cost of technology devices, providing technology training programs, and increasing the number of local stores that sell technology devices and offer repair services. By doing so, individuals in underrepresented groups will be better equipped to access the benefits of digital technology regardless of their geographic location.

Language barriers

Language barriers are a significant contributing factor to the digital divide among underrepresented groups. Individuals who are non-native speakers or do not speak the dominant language in a given region may face significant obstacles when accessing digital resources. For example, if content is not available in a language they understand, they may be unable to use it effectively. This can limit their ability to participate in online communities, access educational resources, or seek employment opportunities. Language barriers can also impact an individual's ability to effectively communicate with others online, which can further isolate them from digital communities. Language barriers may be compounded by cultural barriers that can make it difficult for individuals to understand and navigate the digital world. These barriers can perpetuate the digital divide, leaving individuals who do not speak the dominant language or have cultural differences at a significant disadvantage.

For non-native speakers, technical language and jargon can be difficult to understand, which can make it challenging to use technology effectively. This can be particularly problematic for those seeking employment or educational opportunities, as many industries require a high degree of technical proficiency. Language barriers can make it difficult for individuals to seek help or support when encountering issues with technology. For example, if a non-native speaker encounters a problem with their device or software, they may struggle to find resources or technical support in their language. This can lead to frustration and ultimately discourage them from using technology altogether.

Language barriers can impact their ability to participate in civic life, access healthcare, or engage with their community. For example, individuals who do not speak the dominant language of their country may have difficulty accessing government services or obtaining important information about their rights and responsibilities. This can create significant barriers to social and economic mobility. In addition, language barriers can also be a significant issue for children and families, particularly those who are immigrants or refugees. Children who do

not speak the language of instruction may struggle in school, which can impact their long-term educational outcomes and future opportunities. Addressing language barriers is crucial for promoting equity and ensuring that all individuals have the opportunity to fully participate in their communities. This involves recognizing the importance of multilingualism and promoting the use of languages other than the dominant language, as well as providing resources and support for those who are not proficient in the dominant language. By addressing language barriers, we can help to ensure that underrepresented groups have equal access to the opportunities and benefits of the digital world, as well as society as a whole.

Age

The digital divide is a multifaceted issue that affects underrepresented groups, and one of the significant factors that contribute to this divide is age. Older adults may have difficulty navigating the technology needed to access digital resources, which can be due to a lack of technological skills or a hesitation to adopt new technologies. With the rapid pace of technological change, older adults may find it challenging to keep up with new devices, software, and applications. Many digital platforms are designed for younger users, with small fonts and complex navigation, which can create additional barriers for older adults. Older adults may face physical or cognitive challenges that affect their ability to use digital technology effectively. For example, people with vision impairments may struggle to read small text on screens, and those with arthritis may have difficulty using small buttons on devices.

Another significant challenge faced by older adults in accessing digital resources is the cost of technology. Many older adults may live on fixed incomes and cannot afford to purchase expensive devices or pay for high-speed internet. Some older adults may not see the value of investing in technology, particularly if they do not perceive a direct benefit to their lives. There may be a lack of awareness of the range of benefits that digital technology can offer, such as access to health information, online shopping, and social connections. Addressing these economic and perceptual barriers to digital access is crucial to ensure that older adults are not left behind in the digital age.

The COVID-19 pandemic has highlighted the digital divide's impact on older adults. As many services have moved online to reduce in-person contact, older adults who lack digital skills and access have been left at a disadvantage. For example, online booking systems for vaccinations have been challenging for many older adults to navigate, leading to frustration and delays in accessing healthcare. As such, it is vital to prioritize bridging the digital divide for older adults to ensure that they can access essential services and resources, particularly in times of crisis.

Age is a significant factor that contributes to the digital divide among underrepresented groups. Older adults face multiple challenges in accessing and using digital technology, including a lack of skills, physical and cognitive challenges, economic barriers, and perceptual barriers. Addressing these challenges requires targeted efforts, such as designing technology to be more accessible to older users and providing tailored digital literacy programs. Bridging the age-related digital divide is crucial to ensure that all individuals, including older adults, have equal access to the benefits of digital technology and can fully participate in the digital world.

Disability

Disability is one of the major factors affecting the digital divide among underrepresented groups. People with disabilities often face a variety of barriers when it comes to accessing digital resources. Websites and technology may not be accessible for those with visual or

hearing impairments, making it difficult for them to access the same resources as their able-bodied counterparts. People with physical disabilities may have difficulty using devices that require fine motor skills, such as touchscreens or keyboards. This can limit their ability to participate in online activities and access digital resources. People with cognitive or learning disabilities may have difficulty understanding and using technology effectively, which can also limit their access to digital resources. It is crucial that digital technology is designed to be accessible to people with disabilities, and that policies are put in place to ensure that people with disabilities have equal access to digital resources. This requires not only technical changes to technology and websites but also societal changes that ensure that people with disabilities are not discriminated against and have the same opportunities as everyone else.

In addition to the physical and cognitive barriers faced by people with disabilities, there are also social and cultural barriers that contribute to the digital divide. For example, people with disabilities may face stigmatization and discrimination that limit their access to digital resources. They may be excluded from certain online communities or activities due to their disability, or they may be subjected to online harassment or bullying. People with disabilities may face economic barriers that limit their access to digital resources. They may have limited income due to their disability, making it difficult to afford the technology necessary to access digital resources. Furthermore, they may face additional expenses related to their disability, such as medical bills or assistive technology, which can make it even more difficult to afford the technology necessary to access digital resources.

People with disabilities may face technical barriers to accessing digital resources. Websites and technology may not be designed with accessibility in mind, making it difficult or impossible for people with certain disabilities to access them. For example, visual impairments people may have difficulty accessing websites that are not designed with screen readers or alternative text descriptions. Similarly, people with hearing impairments may have difficulty accessing video content that does not have captions or transcripts. These technical barriers can be particularly challenging for people with disabilities, as they can limit their ability to participate in online activities, access information and resources, and communicate with others.

Discrimination

Discrimination is a significant factor that contributes to the digital divide among underrepresented groups. People of color, LGBTQ+ individuals, and other marginalized groups may face systemic barriers to accessing digital resources, including policies or practices that limit their access. Discrimination can also manifest in online spaces, with individuals facing harassment or exclusion from online communities. This can make underrepresented groups feel unwelcome or unsafe, further exacerbating the digital divide. Additionally, discrimination can limit opportunities for individuals to acquire the skills and knowledge necessary to effectively use technology, as they may face barriers to education or job opportunities..

Discrimination can take many forms and impact different underrepresented groups in unique ways. For example, people of color may face structural inequalities that limit their access to education or job opportunities in technology fields. This can result in a lack of diversity in the technology industry, which can further perpetuate discrimination in digital spaces. LGBTQ+ individuals may face harassment or exclusion in online communities, which can lead to a sense of isolation and limit their ability to access digital resources. Women may also face gender-based discrimination, such as unequal pay or harassment, which can limit their access to digital technology and opportunities. These various forms of discrimination can combine and reinforce

each other, making it even more challenging for underrepresented groups to overcome the digital divide.

Discrimination can also intersect with other factors that contribute to the digital divide, such as economic status or geography. For example, low-income individuals who face discrimination may be even less likely to have access to digital technology due to financial barriers or lack of technical knowledge. People living in rural or remote areas who face discrimination may have even more limited access to high-speed internet and other digital resources. Addressing discrimination must be a key component of any effort to bridge the digital divide among underrepresented groups. This requires recognizing the unique challenges faced by different groups and taking action to address systemic inequalities that limit their access to digital technology and resources. Only by working to eliminate discrimination can we ensure that all individuals have the opportunity to fully participate in the digital world and access its many benefits.

Conclusion

The digital divide among underrepresented groups is a multifaceted issue that has far-reaching consequences for individuals and society as a whole. The inability to access and effectively use digital technologies can limit opportunities, perpetuate inequalities, and prevent individuals from fully participating in the digital world. The factors contributing to the digital divide, including economic status, geography, language barriers, age, disability, and discrimination, must be addressed through a concerted effort from policymakers, technology companies, and society at large. To bridge the digital divide, steps must be taken to increase access to technology, provide training and support for individuals to effectively use it, and ensure that technology is accessible to individuals with disabilities. Moreover, there must be a concerted effort to address discrimination and create an inclusive digital environment that welcomes individuals of all backgrounds. In today's increasingly digital world, access to technology and digital literacy are essential for full participation in society. By addressing the factors contributing to the digital divide, we can create a more equitable and inclusive society that benefits all individuals and fosters innovation and progress.

References

- Boroughs, M. S., Andres Bedoya, C., O'Cleirigh, C., & Safren, S. A. (2015). Toward defining, measuring, and evaluating LGBT cultural competence for psychologists. *Clinical Psychology: A Publication of the Division of Clinical Psychology of the American Psychological Association*, 22(2), 151–171.
- Compaine, B. M. (2001). *The digital divide: Facing a crisis or creating a myth?* (Benjamin M. Compaine, Ed.). MIT Press.

- Cooper, J. (2006). The digital divide: the special case of gender. *Journal of Computer Assisted Learning*, 22(5), 320–334.
- Cullen, R. (2001). Addressing the digital divide. *Online Information Review*, 25(5), 311–320.
- Friemel, T. N. (2016). The digital divide has grown old: Determinants of a digital divide among seniors. *New Media & Society*, 18(2), 313–331.
- Fuchs, C., & Horak, E. (2008). Africa and the digital divide. *Telematics and Informatics*, 25(2), 99–116.
- Gunkel, D. J. (2003). Second Thoughts: Toward a Critique of the Digital Divide. *New Media & Society*, 5(4), 499–522.
- Hargittai, E. (2003). The digital divide and what to do about it. *New Economy Handbook*, 2003, 821–839.
- McClain, Z., Hawkins, L. A., & Yehia, B. R. (2016). Creating welcoming spaces for lesbian, gay, bisexual, and transgender (LGBT) patients: An evaluation of the health care environment. *Journal of Homosexuality*, 63(3), 387–393.
- Mossberger, K., Tolbert, C. J., & Stansbury, M. (2003). *Virtual inequality: Beyond the digital divide*. Georgetown University Press. <https://books.google.at/books?id=1EzJIG0ByJgC>
- Schradie, J. (2011). The digital production gap: The digital divide and Web 2.0 collide. *Poetics*, 39(2), 145–168.
- Servon, L. J. (2008). *Bridging the digital divide: Technology, community and public policy* [PDF]. Wiley-Blackwell. <https://books.google.at/books?id=3NX4HUM2zOoC>
- van Deursen, A. J., & van Dijk, J. A. (2014). The digital divide shifts to differences in usage. *New Media & Society*, 16(3), 507–526.
- van Dijk, J. A. G. M. (2006). Digital divide research, achievements and shortcomings. *Poetics*, 34(4–5), 221–235.
- van Dijk, J., & Hacker, K. (2003). The Digital Divide as a Complex and Dynamic Phenomenon. *The Information Society*, 19(4), 315–326.

- Warschauer, M. (2002). Reconceptualizing the Digital Divide. *Florida Marine Research Institute Technical Reports*. <https://doi.org/10.5210/fm.v7i7.967>
- Warschauer, M. (2003). Demystifying the digital divide. *Scientific American*, 289(2), 42–47.
- Warschauer, M. (2004). *Technology and social inclusion: Rethinking the digital divide*. MIT Press.