

## From isolation to connectivity: Digital inequalities and opportunities for Roma women\*

Kamelia Petkova

**Abstract.** This article explores how Roma women in Bulgaria experience digital inequality, highlighting the intersection of gender, ethnicity, and social exclusion. Based on 21 in-depth interviews, the study identifies barriers such as limited access to technology, patriarchal control, and low digital literacy. At the same time, it emphasizes the agency of women who strive to gain digital skills and autonomy. The findings reveal that digital inequality cannot be addressed solely through technological solutions, but requires structural change, inclusive education, and cultural sensitivity. The paper offers an intersectional approach to digital exclusion as both a social and technological phenomenon.

**Keywords:** Roma women, digital inequality, social exclusion, digital empowerment, intersectionality

### Introduction

In the context of increasing digitalization, access to technology has become a key factor for social inclusion, education, employment, and personal development. Digital inclusion is no longer a privilege but a necessity - it determines participation in the labour market, access to administrative services, social networks, and even the sense of belonging to modern society. Despite the widespread availability of mobile devices and internet in Bulgaria, significant segments of the population remain on the periphery of this process. Among them, Roma women stand out as a particularly vulnerable social group, embodying multiple forms of inequality: gender-based, ethnic, educational, and economic.

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The issue of digital inequality has gained particular relevance in the context of global crises such as the COVID-19 pandemic, during which remote learning, e-services, and online communication became primary channels of social participation. Women from marginalized communities were especially affected - due to lack of devices, digital skills, support, and cultural legitimacy for their online activity. In this sense, the analysis of digital exclusion cannot be limited to the question of access, but must also consider the deeper cultural, social, and gender structures that shape unequal conditions of participation.

While the topic of digital divide is present in academic literature (van Dijk 2005; Warschauer 2004), the specific experiences of Roma women often remain invisible or marginally addressed. Several studies emphasize that digital inequality is not confined to technical access, but is deepened by social, cultural, and economic factors (Hargittai 2007; DiMaggio, Hargittai 2001). The intersectional perspective (Crenshaw 1991) allows for an analysis of how gender, ethnicity, and poverty intertwine and amplify the effects of digital exclusion, especially in vulnerable communities.

This article aims to explore how digital inequality is experienced by Roma women in Bulgaria by examining the intersection of gender, ethnicity, and technological access. The focus is placed both on structural barriers and on individual strategies for coping, digital adaptation, and empowerment. The study is based on qualitative data from 21 in-depth interviews with women from diverse age, social, and educational backgrounds, offering an intersectional analysis of their experiences in the digital sphere.

### **Theoretical framework**

Analysing digital inequalities through the lens of gender and ethnicity requires a solid theoretical framework that accounts for the interplay between social structures, cultural norms, and technological access. This study adopts an intersectional approach to examine the multilayered forms of exclusion experienced by Roma women in the digital environment. The theoretical foundation draws upon established concepts from the literature on the digital divide, empowerment, and social stratification, incorporating both international and Bulgarian scholars. The following section outlines the main theoretical perspectives that inform the analysis in this article.

The concept of digital inequality has been developing since the late 1990s, with early research focusing on what is known as the “first level” of inequality - namely, physical access to the internet and digital devices (NTIA 1995). Subsequently, researchers began to emphasize the importance of skills in using technology and the ability to utilize it effectively - referred to as the “second level” of the digital divide (Hargittai 2007; van Deursen, van Dijk 2010). The latest wave of research introduces a “third level” - inequality in terms of the benefits derived from digitalization, including access to education, employment, and participation in public life (Wei et al. 2011; Helsper 2012). Digital inequality is thus conceptualized across three levels - access, skills, and benefits - each representing a different phase of participation in the digital society (Ragnedda, Muschert 2013):

- **Primary (infrastructural) level** - refers to access to the internet and digital devices, as well as their cost and technical maintenance.
- **Secondary (practical-operational) level** - relates to the skills required to use technology, the level of digital literacy, and confidence in operating digital tools.
- **Tertiary (effectiveness) level** - measures the extent to which digital technologies result in tangible benefits: finding employment, education, social participation, and access to public services.

Jan van Dijk (2005) offers an integrative model of digital inequality that encompasses four interconnected dimensions: motivational access, material access, skills, and actual usage. This model is particularly relevant in the context of vulnerable groups, where inequality is not one-dimensional but cumulative. In this regard, the digital isolation of Roma women cannot be reduced to a mere lack of devices - it must be understood within the broader context of motivation, cultural environment, gender roles, and social mobility.

Research on gender and technology emphasizes that women often show lower levels of digital engagement and confidence in using technology, especially in social contexts where traditional gender roles prevail (Cooper 2006; Faulkner 2001). These processes are exacerbated under conditions of poverty and marginalization, creating a cyclical dependency between social exclusion and technological illiteracy.

The theory of intersectionality, introduced by Kimberlé Crenshaw (1991), provides an analytical toolkit for understanding multiple forms of discrimination. In the case of Roma women, digital inequality emerges from the intersection of ethnicity, gender, poverty, and cultural constraints. Yuval-Davis (2006) and Hooks (1981) argue that female identity cannot be understood in isolation from other axes of oppression and belonging. In the Bulgarian context, Katsarska (2023) also emphasizes the importance of an intersectional approach when analysing digital inequalities, demonstrating how post-socialist societal structures further complicate access to technology and digital literacy for women from minority groups.

In addition to the frameworks mentioned above, numerous authors emphasize that digital inequality is not only a matter of access or skills, but also of resources, motivation, and institutional context (van Dijk 2005; Hargittai 2007; Robinson et al. 2015). Livingstone and Helsper (2007) introduce the concept of “structural layering” of inequalities, whereby the digital divide reproduces existing social hierarchies, including those based on gender, ethnicity, and class. Eszter Hargittai (2007) further argues that “access alone does not guarantee meaningful use”, highlighting the role of social environment, education, and digital self-efficacy. Robinson et al. (2015) develop the concept of “deep digital inequality”, which goes beyond the three levels and includes cultural capital, critical use capabilities, and content creation. David Nemer (2016), in his research on digital practices in poor communities in Latin America, demonstrates how social belonging and gender roles shape access to and use of technology. A similar dynamic is observed among Roma women in Bulgaria, where social control and cultural expectations often restrict digital autonomy.

As Mark Warschauer (2004) emphasizes, “access to technology is a socially conditioned process” that requires not only hardware but also literacy, institutional support, and social inclusion - factors that are often absent in marginalized groups. In the Bulgarian academic context, Ivaylo Todorov (2010) stresses that structural barriers related to poverty, educational deficits, and spatial isolation hinder Roma communities’ access to meaningful digital participation. Rumiana Stoilova (2008) views the digital divide as part of broader processes of social stratification, whereby technological resources are concentrated in the hands of socially privileged groups. Zhivka Valiavicharska (2016) adds a critical perspective on the intersection of gender, ethnicity, and class inequality, which limits the potential for digital mobility. In this sense, the digital isolation of Roma women in Bulgaria should be understood not only as a technological issue, but as a culturally and socially embedded phenomenon.

Moreover, cultural and family norms often create additional barriers to women’s empowerment through digital means. In conservative communities, access to the internet and digital devices may be restricted by male household members (Alampay 2006; Radovanovic, Hogan, Lalic 2020). This is reflected in the statements of several women interviewed in this study, who mention that in some Roma subgroups, women are not allowed to use the internet. The present article aims to explore how digital inequality is experienced by Roma women in Bulgaria, with attention both to structural barriers and to individual strategies for coping and digital empowerment. Through an intersectional analysis of in-depth interview data, the goal is to contribute to a deeper understanding of the interactions between gender, ethnicity, and poverty in the digitalization process.

## **Methods**

This study adopts a qualitative methodological approach, based on the implementation of 21 in-depth interviews with women of Roma origin. This approach was chosen due to the need for a nuanced understanding of experiences, motivations, and barriers that cannot be adequately captured through quantitative tools. As Flick (2009) emphasizes, qualitative methods are particularly suitable for studying socially vulnerable groups, where contextual factors, trust, and the nuances of individual narratives play a crucial role.

The interviews were conducted in 2023 and 2024 as part of the project *Digital Divide and Social Inequalities: Levels, Actors, and Interactions*, funded by the National Science Fund at the Ministry of Education and Science (contract No. КП-06-ПН55/16, 2021). A structured interview guide was used, covering key thematic areas such as access to digital technologies, internet use, educational practices, social support, motivation to learn, and individual strategies for empowerment. This approach allowed for both structured conversation and freedom for the respondents to express their personal perspectives. All participants were informed about the purpose of the study and gave their voluntary consent to participate. The data were anonymized and processed in strict compliance with ethical standards for research involving vulnerable groups. The ethical protocol included secure data storage and ensured the confidentiality of all participants.

The collected data were analysed using thematic analysis (Braun, Clarke 2006), which enables the identification of recurring meaning patterns (themes) in the narratives. Thematic analysis is particularly suitable for studies aiming to interpret the lived experiences of marginalized groups through the lens of social and cultural factors. The analysis focused on recurring themes related to access, usage, and perceptions of digital technologies among the respondents. An intersectional lens was applied to account for the overlapping influences of gender, ethnicity, education, and age. All interviews were conducted under strict ethical procedures, including informed consent and confidentiality assurances.

The profile of the respondents was constructed to capture diversity in age, place of residence, education, and employment status. The participants were between 18 and 52 years old, including young women under 25 as well as several participants over 50. By place of residence, six women lived in small towns (under 30,000 inhabitants), five in medium-sized towns (30,000-100,000 inhabitants), and ten in large cities (over 100,000 inhabitants). Regarding education, seven women had primary or incomplete primary education, five had completed primary education, seven had vocational secondary education, and two held higher education degrees. In terms of employment status, eight women were unemployed at the time of the interview, six were engaged in informal or service-sector work, four were socially active (including in NGOs), and two had stable employment - one in the IT sector and the other in education. A detailed profile of the interviewees is presented in Table 1. This diverse social composition allows for an intersectional analysis that highlights the interplay between gender, ethnicity, social vulnerability, and digital inclusion. It also makes it possible to explore both structural barriers and individual trajectories of digital mobilization and empowerment.

**Table 1.** Information for participants in in-depth interviews

<b>In-ter-view No.</b>	<b>Place of residence</b>	<b>Education</b>	<b>Employment status</b>	<b>Age group</b>
I1	Small town	Primary/incomplete primary	Unemployed	Up to 25
I2	Small town	Primary/incomplete primary	Unemployed	Up to 25
I3	Small town	Primary/incomplete primary	Unemployed	Up to 25

**Table 1** (continued)

I4	Small town	Primary/incomplete primary	Unemployed	Up to 25
I5	Small town	Primary/incomplete primary	Unemployed	Up to 25
I6	Small town	Primary	Informal employment	Up to 25
I7	Medium town	Primary	Informal employment	Up to 25
I8	Medium town	Primary	Informal employment	26-40
I9	Medium town	Primary	Informal employment	26-40
I10	Medium town	Secondary vocational	Socially engaged	26-40
I11	Medium town	Secondary vocational	Socially engaged	26-40
I12	Large city	Secondary vocational	Socially engaged	26-40
I13	Large city	Secondary vocational	Socially engaged	26-40
I14	Large city	Secondary vocational	Unemployed	26-40
I15	Large city	Higher education	Stable job (IT)	26-40
I16	Large city	Higher education	Stable job (education sector)	26-40
I17	Large city	Primary/incomplete primary	Unemployed	26-40
I18	Large city	Primary	Informal employment	50-52
I19	Large city	Secondary vocational	Informal employment	50-52
I20	Large city	Primary	Unemployed	50-52
I21	Large city	Secondary vocational	Unemployed	50-52

## Results

The analysis of the in-depth interviews reveals the multidimensional nature of digital inequalities among Roma women. The respondents' experiences demonstrate that access to technology and the internet is not merely an economic issue, but a process strongly shaped by social, cultural, and gender-related factors. Digital exclusion manifests not only through the absence of devices, but also through control over their use, lack of skills, low motivation, and social barriers. At the same time, the interviews uncover various forms of adaptation, resistance, and a desire for digital competence, which highlight the active role of women in overcoming these constraints.

For reasons of clarity and confidentiality, each interviewee has been assigned an interview number (II-I21), which corresponds to the profiles presented in Table 1.

Based on the thematic analysis, seven main strands can be identified, reflecting the key dimensions of digital inequality as experienced by Roma women - ranging from limited access to devices and educational deficits, through age-related and cultural barriers, to the importance of family and digital communication as sources of support. In the following subsections, each of these strands is examined in detail, with particular attention to the individual strategies and social contexts that shape women's digital participation.

### Limited access to and control over digital devices

One of the most clearly expressed barriers that emerged from the interviews is the limited or restricted access of Roma women to digital devices - including mobile phones, laptops, and stable internet connections. This issue is not merely a matter of poverty or lack of infrastructure; it also has a strong social and cultural dimension: control over technology is often exercised by other household members, typically men, which limits women's autonomy.

*"I have a phone, but it's not a smartphone with internet. My husband says I have no business being online, that he checks things there and I don't need to" (I6).*

Such control is often rooted in both economic dependence and traditional patriarchal attitudes that frame digital competence and the right to online presence as male privileges. Women are not only excluded from decisions regarding the purchase of devices, but are also discouraged from using digital tools independently:

*"We had a laptop at home, but only the kids and my husband used it. I don't even know how to turn it on, and honestly - they don't really let me touch it" (I8).*

Some respondents shared that in certain Roma subcultures, women are not allowed to use the internet without permission, and social media is seen as a threat to moral and family order:

*“In our community, women can’t sit on Facebook. They’re supposed to look after the kids and the home. Only the men use the internet, if something important comes up” (I14).*

These intra-community norms function as a form of digital patriarchal regulation - a phenomenon that, as noted by Alampay (2006) and Radovanovic, Hogan, and Lalic (2020), disproportionately affects women from marginalized groups in developing or post-socialist societies. Systemic control and restrictions lead not only to functional digital illiteracy but also to a reduced capacity for independent use of online services - including e-health, job searches, remote education, and social platforms.

*“Men don’t believe women should be on the phone. They think she’ll run off or call someone. But I just want to look for work” (I6).*

Despite these constraints, some women demonstrate a strong drive to acquire digital skills, even without external support. Motivation itself emerges as a key factor in the empowerment process:

*“I taught myself how to use Viber. Then I learned how to send documents from my phone. It’s not easy, but I want to know how” (I7).*

This resistance to digital isolation - though individual - represents a form of micro-empowerment with the potential to challenge traditional roles and open new horizons for personal development and social mobility.

### **Education, digital skills, and opportunities for empowerment**

Access to education proves to be a critical factor that shapes not only the level of digital competence, but also the motivation for active participation in the online environment. As van Dijk (2005) emphasizes, education is one of the strongest determinants of whether a person will engage actively in the digital society, as it influences both skills and confidence, as well as the capacity for critical and effective use of technology.

The interviews reveal a clear correlation between educational attainment and the ability of women to use the internet for practical purposes - seeking information, accessing services, participating in courses, or searching for employment. In this context, education emerges not merely as a tool for knowledge acquisition, but as a key to empowerment and digital mobilization, especially among Roma women living in conditions of social vulnerability.

Respondents with higher levels of education stand out with significantly better digital competence, greater independence in using devices, and higher confidence in accessing online resources. For them, the internet is not a threat but a tool for information, professional development, and civic participation:

*“I work at an IT company - everything is online: documents, meetings, communication. It was hard at first, because there was no one to show me, but I taught myself” (I15).*

This example illustrates how the motivation to learn and digitally integrate can overcome initial barriers. The same respondent shared that her desire to be “equal to others” and to work in a dynamic environment led her to seek courses, study independently, and improve her digital literacy to a level that enabled her to succeed in a major IT company:

*“I searched for courses for a long time, enrolled in two, then watched videos, read, experimented. I didn’t give up because I wanted to be where no one expects a Roma woman to be” (I15).*

Lower levels of education are often accompanied by limited vocabulary, difficulty finding information, and fear of making mistakes while using the internet. Women with primary or incomplete primary education reported that even when they had devices, they did not know how to use them effectively and often relied on help from children or relatives:

*“My little daughter shows me how to get on Facebook, but I’m afraid to press anything - I might break it” (I17).*

Several women with experience in education or participation in training programmes highlighted the role of non-formal education and courses in developing digital skills. Mastering even basic functions - such as sending an email or filling out an online form - is perceived as a form of empowerment that expands their sense of what is possible:

*“When I submitted my tax declaration online by myself, I felt like I’d accomplished something big. I didn’t wait for anyone - I did it on my own” (I10).*

The positive examples in the interviews suggest that access to education - whether formal or informal - is a key factor in digital inclusion. Women who had even minimal schooling or attended short-term courses demonstrated greater confidence and a willingness to experiment with technology. This indicates that policies focused on accessible, adapted, and practical digital training can have a transformative impact on marginalized groups of women.

However, an opposite trend also emerged - some women showed no interest in digital technologies, not due to control or fear, but because they perceived no need or benefit from them. They saw the internet as “unnecessary”, “complicated”, or “unsuitable for a woman’s role”:

*“I’m at home, I take care of the kids, clean - what do I need the internet for?” (I8);*

*“I’m not interested in that stuff. My phone is for talking - I don’t need anything else” (I20).*

In this context, it becomes evident that digital isolation is not always the result of external barriers. In some cases, a lack of motivation, internalized gender roles, and limited social horizons maintain the distance between women

and technology. This calls not only for access and training, but also for culturally sensitive interventions aimed at changing attitudes and expanding perceptions of the opportunities the digital world can offer.

### **Age and digital engagement**

Age plays a significant role in shaping digital habits and opportunities among Roma women. In the sample of 21 interviewed respondents, three distinct age groups emerged:

- (1) young women up to 25 years old,
- (2) women of working age between 26 and 40, and
- (3) women approaching retirement age - between 50 and 52 years old.

Young women (under 25), although formally in the best position for digital adaptation, are often restricted by cultural and family norms - particularly within more conservative Roma subgroups. One 22-year-old participant shared:

*“The men tell them not to have Facebook, not to post pictures, not to talk to others... it’s a shame for the family” (I18).*

Many women in this group are already married with children, which further limits their time and space for digital engagement.

Women aged 26-40 demonstrate the highest motivation for digital self-improvement. Many of them balance motherhood with seeking professional opportunities and actively participating in educational courses. As one case illustrates:

*“I wanted to grow, to get out of the neighbourhood. The computer courses helped me, and now I work in an IT company” (I19).*

This age group serves as a kind of “transitional resource”, bridging the gap between the younger generation - often constrained - and older women, whose digital activity is nearly nonexistent.

Women aged 50-52 are often already grandmothers, and in some cases great-grandmothers. They rarely use digital devices beyond basic needs such as calls and photos. A fear of “breaking something” or “not being able to manage” is a common reason for their passivity:

*“I have a phone, but I don’t use it for anything else. I’m afraid I’ll mess something up” (I21).*

Low educational attainment and the lack of a stimulating environment contribute to their digital isolation.

As Helsper (2012) emphasizes, age should not be considered in isolation, but rather in the context of social roles, cultural expectations, and available learning resources. In Roma communities, where women often enter family and parental roles at an early age, the age factor operates according to a different logic than in the majority population.

## Cultural and gender barriers to digital inclusion

Digital inequalities do not stem solely from a lack of resources or education - they are deeply rooted in social roles, family expectations, and cultural understandings of a woman's place within the community. As Faulkner (2001) notes, women's access to technology is not merely a technical matter, but a socially mediated space where power relations, gender roles, and cultural norms define the boundaries of what is possible. In this context, as emphasized by Radovanovic, Hogan, and Lalic (2020), women from marginalized groups face "silent barriers" that restrict not only access to the internet but also the right to use and learn digital tools independently.

Within the traditional Roma cultural system, women are assigned a clearly defined role - they are primarily mothers, wives, and homemakers. The reproductive role - bearing and raising children - is central to female identity. From a young age, girls are socialized toward family submission, childbearing, and home maintenance, which limits their access to alternative spheres of participation such as education, employment, and the digital environment. In many cases, marriages occur early, and motherhood begins during adolescence, further reducing time, opportunities, and personal autonomy.

*"I had my first child at 17. After that, there was no time for anything else. My husband doesn't want me to work, he says - take care of the kids" (I2).*

As guardians of tradition, Roma women are often positioned as cultural gatekeepers, expected to uphold and transmit community norms - including restrictions on social interactions, public behaviour, and technological use. In this sense, a woman's digital empowerment is perceived as potentially threatening, as it could undermine established hierarchies and social control.

The situation is especially severe for young girls who practice Islam, where access to social media is often strictly limited, justified as protecting "honour" and preventing unauthorized social contact. Free communication online is viewed as morally questionable, and girls are raised with values of shame, obedience, and seclusion.

*"They say a girl should be modest. If they see her with a phone or online - they immediately assume she's bad" (I9).*

These restrictions are not imposed solely by men - older women, such as mothers-in-law or mothers, often play an active role in maintaining gender boundaries. As Hooks (1981) argues, patriarchy can be reproduced by women who internalize these roles as the only acceptable and socially sanctioned options.

*"My mother says I have no business being online. I should learn to cook - that's what I need" (III).*

In this context, digital activity is more than just access to information - it symbolizes personal choice, autonomy, and, at times, deviation from the norm.

As a result, some women who use the internet do so secretly, in moments of solitude or via their children's devices.

*"I'm not allowed to have my own phone, but when no one's home, I go online through my son's tablet. I like seeing things I can't see anywhere else" (I14).*

Despite the weight of cultural and gender-based restrictions, some women demonstrate resistance - quiet, gradual, but real. They learn from their children, enroll in courses, connect with the outside world, and develop their own strategies for empowerment through digital adaptation.

*"I learned how to use a computer in a course for mothers. That's where I realized I could do something too. I'm not afraid of technology anymore" (I17).*

In this context, the intersectional approach (Crenshaw 1991) helps illuminate how ethnic, gender, and cultural identities intersect, producing specific configurations of oppression - but also possibilities for transformation. The digital isolation of Roma women is not merely a technological deficit - it is a social construct, reinforced through familial and cultural practices, which can be challenged through targeted support, education, and empowering policies.

### **Digital inclusion as a channel for social support and belonging**

Beyond access, skills, and cultural norms, the interviews reveal another important yet often overlooked dimension of digital inclusion: the role of online spaces as sources of emotional and social support. For many Roma women - especially those experiencing isolation due to restrictive gender roles, geographic remoteness, or social stigma - the digital environment functions as a substitute for inaccessible offline networks. Communication apps such as Viber and Messenger, along with Facebook groups, become spaces where women maintain friendships, exchange advice on parenting, health, and relationships, and share everyday struggles that often remain invisible in their communities.

These forms of digital communication offer not only connection but also a sense of emotional security and belonging. Some respondents described how participating in online chats with friends or women's groups helped them feel understood and less alone in their daily lives. This is particularly significant in contexts where family or community-based social control limits women's physical mobility and social interaction.

*"I don't go out much because there's no one to go with. But in the evenings, I chat with a friend, I'm in a group for mothers - we share things. I feel understood" (I12).*

In more conservative Roma communities, where women's roles are strongly tied to domestic responsibilities and childcare, the digital realm offers a rare opportunity for informal self-expression and connection with the outside world. The ability to communicate with others - even just through messages - represents

a small but meaningful form of autonomy. In several cases, women shared that simply knowing “others are going through the same things” provided relief and a sense of strength.

*“We talk in the group about kids, husbands, money. Sometimes I see I’m not alone - others are going through the same” (I13).*

Moreover, the digital space allows some women to construct new social identities that go beyond traditional roles. Through online interactions, they gain access to different perspectives, life stories, and role models that challenge dominant narratives within their communities. Though discreet, this type of exposure sows the seeds of new aspirations and gradual changes in attitudes.

These insights highlight the social function of digital inclusion - beyond the utilitarian frame of skills and access. For marginalized women, digital technologies serve as a *relational infrastructure* - they create and sustain human connections, expand emotional horizons, and foster micro-forms of solidarity. While seemingly peripheral, these ties often represent the only space for recognition and support beyond the household.

Notably, this digital network of contacts also plays a preventative role in terms of mental health. Some respondents shared that their online interactions help them cope with emotional stress or loneliness, especially during times of conflict or isolation. Though they rarely use psychological terminology, their narratives suggest that the digital environment meets a need for listening, care, and validation.

*“When I’m feeling down, I go online. Sometimes I read something or message someone and the day feels easier” (I10).*

From this perspective, digital inclusion is not only a means of education and economic empowerment - it is also a pathway to psychosocial resilience. Recognizing its emotional and community dimensions is key to designing inclusive strategies that respond to the lived realities of marginalized women.

### **Intra-family digital support and learning through children**

Although childcare remains a central role for Roma women, many of them display initiative and agency by actively seeking help from their children to navigate the digital world. This creates a unique two-way dynamic - while the parent educates, she also learns through the child. The interviews reveal that many women, especially those with limited or fragmented education, begin using the internet, mobile apps, and social networks thanks to their children. Children often serve as digital mediators between generations and are sometimes the only source of digital literacy within the family. This “bottom-up” learning not only compensates for the lack of formal training but also transforms knowledge hierarchies within the household.

*“My son showed me how to play music on YouTube. Then I started watching recipes and cooking videos. I like it” (I14);*

*“My daughter shows me how to send messages. Now I write to my cousin in Germany on my own” (I20).*

In many cases, mothers learn how to manage online payments, use health-related apps, or submit documents through their children’s assistance.

*“I didn’t know anything about that online stuff. But my boy is in fifth grade, and he knows everything. He helped me sign up for the kindergarten list online” (I7).*

This intergenerational support helps reduce the shame and fear associated with adult learning. Unlike formal environments, children’s help is patient, emotionally safe, and not judgmental, which encourages many women to take small steps toward digital independence.

*“When I asked my daughter how to write an email, I thought she’d laugh. But she sat next to me and explained everything. She was proud I wanted to learn” (I19).*

From a theoretical perspective, this pattern can be linked to the concept of “scaffolded learning” (Vygotsky 1978), where knowledge is built through guided assistance. Here, the roles are reversed - children support the learning of their mothers, creating a non-hierarchical, emotionally supportive learning environment. Although informal learning through children cannot replace the need for structured education, it is a significant resource for promoting digital inclusion among women in vulnerable social positions. It also highlights the family as a space for intergenerational solidarity, where Roma women are not only caregivers but also active learners - often quietly, yet persistently - on a path toward digital empowerment.

### **Digital communication as a means of social connectivity and emotional support**

Although many respondents have limited access to digital technologies, the use of mobile communication apps (such as Viber, Facebook Messenger, WhatsApp, and TikTok) emerges as an important channel for maintaining social ties, mutual assistance, and emotional well-being. For some women, these platforms are not merely technical tools, but symbolic spaces where they can express themselves, connect with loved ones, or seek support.

*“When I talk to my cousin on Viber, it’s like she’s right here with me. She lives abroad, but we talk about everything. That helps me” (I12).*

Especially for women who feel isolated within their families or neighbourhoods, digital communication becomes a form of “emotional escape” and a temporary release from social constraints. Some respondents shared that they only go online when they are alone - not just for entertainment, but to preserve a sense of connection with the outside world.

*“When I close the kitchen door at night and the kids are asleep, that’s when I go on Facebook. I see what’s happening, look at recipes, chat with friends. That’s my time” (I13).*

Beyond personal support, social media often serves as an informal channel for sharing practical information - about jobs, documents, social assistance, or healthcare services. In some cases, women with higher digital competence take on the role of “digital intermediaries” within their communities, helping others understand how to fill out online forms, enroll children in school, or search for jobs.

*“When I learn something from the internet, I tell the neighbours. They don’t have phones or don’t understand, but they ask me” (I11).*

These practices build trust-based networks, where digital technologies function as tools for fostering female solidarity and mutual support. Sometimes these networks include relatives abroad who provide not only financial help, but also guidance, contacts, and moral encouragement. In this way, transnational communication transcends local boundaries of isolation and creates a sense of belonging to a wider community.

*“My sister is in Germany - she sends me links to help me register for health insurance. I don’t understand everything, but she explains it. Without her, I couldn’t manage” (I9).*

On the other hand, digital inclusion can also lead to conflicts with spouses or relatives, especially when women exhibit autonomy. Nevertheless, the desire to maintain connections, access information, and share experiences motivates many women to develop discreet or semi-secret strategies for digital participation. In this context, digital communication is not merely a technical channel but a social practice through which Roma women seek - and sometimes find - opportunities for recognition, support, and belonging. These are key elements of empowerment that are often missing in their offline lives.

## **Discussion and conclusion**

The results from the in-depth interviews reveal a multilayered and often invisible side of digital inequalities experienced by Roma women in Bulgaria. The analysis shows that digital exclusion is not merely a technical or economic issue, but one that is socially structured and culturally legitimized. Women in Roma communities are limited not only in terms of physical access to technology, but also in terms of symbolic access to digital spaces - spaces where new identities are formed, and opportunities for education, work, and social engagement emerge. Family and gendered expectations - casting the woman as mother, guardian of the home, and bearer of family honour - create substantial barriers to any form of digital emancipation. Control over social networks, restrictions on device use, and even the shame associated with learning digital skills are deeply normalized mechanisms of social pressure.

Despite these constraints, the study demonstrates that Roma women are not passive subjects. They devise strategies for digital coping - learning from their children, using social media secretly, enrolling in courses, and seeking opportunities. The stories of the respondents illustrate that digital literacy can serve not just as a tool, but as a pathway toward economic and social mobility, including successful professional integration into the IT sector.

These findings underscore the need for interventions at multiple levels:

- Digital education approaches tailored to cultural contexts and gender roles;

- Empowerment programmes for women that go beyond technical skills and foster social confidence;

- Involvement of families and communities in the process, so that access to technology is normalized and accepted as an opportunity, rather than perceived as a threat;

- Policy development based on intersectional analysis and collaboration with Roma leaders and local initiatives.

The findings also provide concrete guidance for the development of inclusive policies for vulnerable women. Locally grounded educational initiatives that engage families - especially in conservative Roma communities - are recommended. Targeted programmes for women should combine digital skill-building with empowering approaches, including women's mentoring networks, mobile training initiatives, and culturally sensitive methodologies. Interdisciplinary interventions linking education, social work, and gender equality policy have the potential to address both the structural and normative barriers to Roma women's digital participation.

In conclusion, digital inequality among Roma women cannot be overcome through technological solutions alone, without parallel and targeted transformation of the social, cultural, and educational conditions in which they live. It is not merely a reflection of a lack of devices or internet, but the result of deeply rooted structures of inequality - based on gender, ethnicity, class, and place of residence. From this perspective, digital inclusion becomes both a mirror of existing inequalities and a potential channel for their transformation. However, this potential remains untapped when not supported by comprehensive policies that combine access, training, and cultural sensitivity.

Roma women are not simply objects of digital exclusion - they are active agents who, when given the opportunity, demonstrate a strong will to learn, adapt, and participate socially. Recognizing and supporting this potential is key to building a more just and inclusive digital environment.

Policies for digital literacy and empowerment must be not only accessible and practice-oriented, but also grounded in the lived realities of Roma communities. Only then can digital integration become a sustainable tool for social mobility, cultural recognition, and economic autonomy for Roma women. Achieving this requires targeted public policies developed in dialogue with the women from these communities themselves.

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**Senior Assist. Prof. Dr. Kamelia Petkova**  
 Institute of Philosophy and Sociology  
 Bulgarian Academy of Sciences  
 13A Moskovska Str.  
 1000 Sofia, Bulgaria  
 Email: kamelia.petkova@gmail.com