



UNIVERSIDADE
CATÓLICA
PORTUGUESA

FROM ACCESS TO BELONGING: INFORMATION AND
COMMUNICATION TECHNOLOGY PATHWAYS TO
EUROPEAN UNION MIGRANT INTEGRATION IN
PORTUGAL

DISSERTATION

Dissertation submitted to Universidade Católica
Portuguesa to obtain a Master's Degree in Psychology in
Business and Economics

By

Mariana Malta da Silva Cruz

Faculdade de Ciências Humanas

September 2025



UNIVERSIDADE
CATÓLICA
PORTUGUESA

FROM ACCESS TO BELONGING: INFORMATION AND
COMMUNICATION TECHNOLOGY PATHWAYS TO
EUROPEAN UNION MIGRANT INTEGRATION IN
PORTUGAL

DISSERTATION

Dissertation submitted to Universidade Católica
Portuguesa to obtain a Master's Degree in Psychology in
Business and Economics

Mariana Malta da Silva Cruz

Faculdade de Ciências Humanas

Under the supervision of Professor Carlos Barros

September 2025

Acknowledgments

Without you, nothing would be possible!

I want to thank my family, friends, and boyfriend who always believed that my curiosity and interest would take me far and led me to create works like this with such enthusiasm. Thank you for believing in me.

I especially thank my advisor – Professor Carlos Barros – who was always available, at any time, even despite a daunting schedule. He was there to teach me how to write this dissertation, but also to calm me down, give me confidence, and give me a path to follow. What an honor to be able to work with and learn from such a genuine, competent person, who always had a kind and friendly word to share with the world.

I also thank my mother (again) for always being there and for her writing reviews, Anabela for helping me find participants, Fábio for his trust and reviewing references, Maria for her support and reviewing tables, and Pedro for his ability to make me feel safe and English review. To all for being unstoppable at various stages of my dissertation, as well as in my life.

Finally, to my dear friend Maria Gordo, who is no longer with us physically, but whose empathy and generosity were essential to all of this work. It's unfair that you couldn't submit and defend your dissertation with us. Therefore, you are present in every word I write.

To all: a huge thank you!

Table of Contents

Abstract.....	6
Resumo	7
I – Literature Review.....	8
1. Context	8
2. Information and Communication Technologies (ICT) and Accessibility.....	11
3. The Role of Belonging and Social Identity	14
4. Research Gap and Applied relevance	15
II - Methods	16
1. Research Design	16
2. General objective and specific objectives	17
3. Participants	17
4. Instruments	18
5. Data Collection.....	19
6. Data Analysis.....	19
III - Results and Discussion.....	20
1. Access and use of ICT	21
1.1. General Digital Practices	21
1.1.1. Purposes for using ICT	21
1.2. Access to Essential Information	23
1.2.1. Access to information and processes for obtaining official documents and carrying out bureaucratic procedures	23
1.3. Digital Challenges and Vulnerabilities	25
1.3.1. Barriers and conditions of access to information	25
1.3.2. Reliability of online information	27
2. The role of Belonging and Social Identity.....	28
2.1. The influence of ICT on feelings of belonging and identity	29
2.2. Social Networks and Support	31

3. Limitations and Future Studies.....	32
4. Theoretical and Practical Implications	34
VI - Conclusions.....	35
References	38
Appendices	45

Abstract

This dissertation examines how Information and Communication Technologies (ICT) influence the integration processes of European Union migrants in Portugal, focusing on access to information, belonging, and social identity, while simultaneously considering opportunities and barriers related to access, skills, and benefits. A qualitative study was conducted with 16 participants, aged between 20 and 73, who were digital media users and had resided in Portugal for at least one year. Data were collected through semi-structured interviews and analyzed thematically using *NVivo* software (ed.15).

The results show that communication and information seeking are dominant uses: messaging apps and social networks sustain transnational ties and everyday coordination, while search engines and official portals structure practical decisions. Hybrid pathways emerged that combine online and in-person stages and combine digital and interpersonal sources to reduce uncertainty. Trust in information was shown to be conditional, anchored in the source's authority and verification strategies; Discrepancies between online information and in-person practices, language barriers, and information dispersion contributed to friction and feelings of exclusion.

We conclude by proposing the notion of digital union: integration occurs in a sociodigital ecology where affective bonds, instrumental cooperation, and cross-validation depend on the alignment between online and in-person spheres. Practical implications include consolidating public information into a unified portal, ensuring a coherent multilingual offering, and improving response times and process traceability. Limitations include the purposive sampling and self-reporting, which restrict transferability and causal inferences, requiring caution when generalizing the results.

Keywords: Digital Integration; Migration; Social Belonging; Sociodigital Vulnerability; Transnational Relations.

Resumo

Esta dissertação examina como as Tecnologias de Informação e Comunicação (TIC) influenciam os processos de integração de migrantes da União Europeia em Portugal, com foco no acesso à informação, pertença e identidade social, considerando simultaneamente oportunidades e barreiras ligadas a acesso, competências e benefícios. Recorreu-se a um estudo qualitativo com 16 participantes, com idades compreendidas entre os 20 e 73 anos, utilizadores de meios digitais e a residir em Portugal há pelo menos 1 ano. Os dados foram obtidos por entrevistas semiestruturadas e analisados tematicamente, utilizando o software *Nvivo* (ed. 15).

Os resultados mostram que comunicação e procura de informação são usos dominantes: aplicações de mensagens e redes sociais sustentam laços transnacionais e coordenação quotidiana, enquanto motores de busca e portais oficiais estruturam decisões práticas. Emergiram caminhos híbridos que combinam etapas *online* e presenciais e articulam fontes digitais e interpessoais para reduzir incerteza. A confiança na informação revelou-se condicional, ancorada na autoridade da fonte e em estratégias de verificação; discrepâncias entre informação online e prática no balcão, barreiras linguísticas e dispersão informativa contribuíram para fricções e sentimento de exclusão.

Conclui-se propondo a noção de união digital: a integração acontece numa ecologia socio-digital onde laços afetivos, cooperação instrumental e validação cruzada dependem do alinhamento entre esferas online e presenciais. Implicações práticas incluem consolidar informação pública num portal unificado, garantir oferta multilíngue coerente e melhorar tempos de resposta e rastreabilidade dos processos. Como limitações podem apontar-se a amostra intencional e autorrelato, restringindo transferibilidade e inferências causais, sendo necessária cautela na generalização dos resultados.

Palavras-chave: Integração Digital; Migração; Pertença Social; Vulnerabilidade Socio digital; Relações Transnacionais.

I – Literature Review

1. Context

Migration is a multidimensional social process, shaped by broader transformations in society and development and, at the same time, also influences them. It is not an isolated event: it results from structural and systemic inequalities and opportunities, mediated by individual and collective action. It interacts with political, economic and cultural factors at the local, national and global levels, reflecting the complexities of a globalised world. It should, therefore, be analysed not as a single effect or an isolated variable, but as an integral part of social change itself (Castles, 2010; de Haas, 2010).

Moreover, the United Nations defines an international migrant as a person who has lived for at least one year in a country other than the one in which they were born (United Nations, 2020). Nevertheless, as argued by Castles (2010) and de Haas (2010), migration should be understood primarily as a socially rooted and transformative process, rather than merely as a demographic category.

Nowadays, migration within the European Union is governed by multiple principles that are established in European Union legislation. One of the most important principles is free movement, which is found in various legislative instruments, such as the Treaty on the Functioning of the European Union (TFEU), Directive 2004/38/EC and the Charter of Fundamental Rights of the European Union (European Commission, 2023; European Union, 2016). In general, it ensures European Union citizens have the right to circulate, live and work freely in all Member States, as long as they comply with the stipulated requirements and specifications (European Commission, 2023).

Even so, simultaneously, with the emergence and dissemination of new information and communication technologies, primarily the internet, the way people live have changed substantially at a global level. Therefore, migration and its experience have been reshaped by this mass diffusion, acquiring new characteristics and contours (Barros, 2023; Ganito, 2018; Komito, 2011; Mateia, 2018;).

Considering this context, Portugal emerges as an increasingly popular living destination due to various factors, such as quality of life, favourable climate conditions, professional and economic opportunities and social peacefulness (Esteves & Rauhut, 2024; Grau et al. 2017; Rauhut 2021).

Recent data from Portugal's National Statistics Institute (INE, 2023) underscores a notable upward trend in communication technology usage across the past decade. It shows that over half of the Portuguese population between the ages of 16 to 74 now possess basic or higher digital competencies (Instituto Nacional de Estatística, 2023).

At the same time, the most recent report of 2023 shows that communication and information access remained the predominant online activities among individuals in this age range. Additionally, the Information and Communication Technologies Usage Survey (2023) introduced a new metric to assess exposure to aggressive, discriminatory, or demeaning online content. The findings reveal that the perceived motivations behind such content include factors such as nationality or ethnic background (27.9%), sexual identity or orientation 26.0%, and political or social views (25.5%) (Instituto Nacional de Estatística, 2023). In this context, it is important to ask how societies can foster conditions for migrant integration.

Integration is a contested and polysemic concept in literature, with a lack of theoretical and methodological consensus and recurring criticism of its normative character (premises and objectives) and the “othering” it can produce (Garcés-Mascareñas & Penninx, 2016; Spencer & Charsley, 2021). Historically, in the context of acculturation, integration refers to the strategy whereby migrants maintain their culture of origin and actively participate in the host society, tending to be associated with better adaptation outcomes when the context allows (Berry, 1997). In European migration studies, it has been analytically defined as the process of becoming an accepted part of the host society, observed in three interconnected dimensions (legal-political, socio-economic and cultural-religious) and at various levels (individuals, organisations, institutions), with an emphasis on power asymmetry and the non-linear and multi-actor/multi-level nature of the process (Garcés-Mascareñas & Penninx, 2016). More recent research proposes a non-normative definition of integration as multidirectional processes of interaction and personal and social change between individuals and institutions, unfolding in five dimensions (structural, social, cultural, civic-political and identity), with attention to temporality, scale/locality and transnationalism, and operationalised by “effectors” that can facilitate or hinder these processes (Spencer & Charsley, 2021). In this study, we adopt a broader definition: integration as a multidimensional and bidirectional process of change and participation between migrants and host society/institutions, crossing structural, social, cultural and civic spheres and linking participation with belonging (Bosswick & Heckmann, 2006; Garcés-Mascareñas

& Penninx, 2016; Spencer & Charsley, 2021), taking Bronfenbrenner's bioecological model as a reference (Bronfenbrenner, 1979; Bronfenbrenner, 2005 Bronfenbrenner & Morris, 2006).

Given that Bronfenbrenner's (1979) ecological model of development conceives the environment as a series of nested layers surrounding the developing individual – who is continuously shaped by multiple levels of environmental influence – and that these interactions are both direct and indirect, forming a reciprocal, bidirectional relationship between the individual and the evolving characteristics of the environments they encounter, as well as the broader social structures that encompass those environments, this multilayered approach makes the model particularly pertinent to studies examining how multiple systems of interaction affect the process of integration.

Thus, in Bronfenbrenner's (2005) bioecological model, development unfolds through proximal processes in four distinct systems: the microsystem, the mesosystem, the exosystem, and the macrosystem (Bronfenbrenner, 1986; Bronfenbrenner & Ceci, 1994; Bronfenbrenner et al., 2006). The microsystem, which has the most direct impact, encompasses the individual's personal interactions within their immediate environment. The mesosystem connects these different microsystems, facilitating an understanding of how distinct contexts interrelate (Bronfenbrenner, 1979). The exosystem encompasses contexts where individuals do not participate directly, such as school councils or municipal services, as well as the interconnections between these and other systems, whose decisions indirectly affect them, their daily life (Bronfenbrenner, 1977). At the broadest level, the macrosystem includes the overarching cultural values and social norms that influence all other systems (Bronfenbrenner, 1977).

Furthermore, the chronosystem encompasses the addition of time as a dimension to the model (Bronfenbrenner, 2005) that further refines our understanding of development as a temporal process. This temporal element is crucial for studying migrant integration and adaptation processes, as it highlights the role of immediate and changing contexts in their journey toward integration into new social, cultural, and economic settings. Recent studies (Barros & Hanenberg, 2024; Barros et al., 2024) also indicate the need to view systems as an integral element where the person-context can only be considered by integrating the on-site and digital contexts in symbiosis.

Building on a foundational understanding of systemic dynamics, the following sections delve into key factors in digital contact. Thus, we will explore digital media's role in fostering inclusion, examine how a sense of belonging and social identity shape

integration experiences, highlight the critical importance of accessible health and safety information, and consider how sociodemographic factors contribute to specific vulnerabilities. Together, these perspectives create a comprehensive view of the intricate dynamics influencing migrant experiences in Portugal.

In this context, the multifaceted process of integrating migrants into host societies is profoundly influenced, and potentially significantly shaped, by digital media.

2. Information and Communication Technologies (ICT) and Accessibility

The digital ecosystem, which relies on a diversity of devices, services, and forms of access, introduces potential asymmetries between individuals, groups, and generations. In this context, the use of these technologies was profoundly transformed when the internet became associated with cell phones/smartphones (Kraemer & Katz, 2009), potentially reshaping the relationship between ease of access and the perception of connection with the world. Furthermore, access to multiple tools, applications, and mechanisms tends to broaden one's perception of the digital space (Barros, 2023; Barros & Ganito, 2024; Ganito, 2018). In this context, the migratory experience makes these dynamics particularly visible: access to and use of digital technologies condition opportunities and barriers to integration, and digital media mediate social and cultural participation, highlighting processes of inclusion and exclusion (Bork-Hüffer, 2022).

Moreover, Bork-Hüffer (2022) explores the complex dynamics of digital media in shaping migrants' inclusion and exclusion through friendships and proposes the concept of “entangled inclusion and exclusion”, which describes how migrants simultaneously experience interconnected processes of integration and marginalization, where digital media enable connections that foster inclusion, while also reinforcing social, cultural, and economic boundaries that contribute to exclusion. Along the same lines, Hamel (2009) argues that the use of information and communication technologies (ICT) facilitates better migratory integration and improves transnational connectivity and digital remittances. Their use, through smart televisions and cell phones, improves direct intergenerational engagement and access to diverse cultural content, including YouTube (Notley et al., 2024; Pérez & Salgado, 2019). It is also argued that cell phones are essential for migrant adolescents to connect with youth microcultures and maintain emotional ties with their communities of origin (Pérez & Salgado, 2019). Thus, such tools facilitate the negotiation of transnational ties and identities as migrants navigate colonized spaces (Bork-Hüffer, 2022).

Social networks facilitate international migration in four main ways (Dekker & Engbersen, 2014; Dekker et al., 2015): *a)* Strong ties: maintain communication with close family and friends, ensuring emotional and logistical support at a distance; *b)* Weak ties: expand the reach to acquaintances and peripheral contacts who can provide information and opportunities at the destination; *c)* Latent ties: activate potential contacts (people with whom there was no previous interaction), who can be mobilized when needed; and *d)* Unofficial information (“street knowledge”): provide practical, up-to-date, and non-institutionalized data on routes, work, housing, and bureaucracy, aiding decision-making. By doing so, social networks transform migratory networks and reduce barriers to movement and initial integration.

However, ICT and online media developments are not accessible to everyone, creating a phenomenon called the “digital divide”, which describes the “inequality involved in the access and usage of digital services as well as real-time consequences of the imbalance” (Fung et al., 2025, p. 1), meaning that only certain groups will benefit from the perks of this online migrant networks, whilst some will be excluded and keep using the traditional process to conduct their migration processes.

Building on this, the digital divide can increase exclusion in general due to a decrease in access, especially among those with lower economic and cultural capital (Malafaia et al. 2013). As Dekker and Engbersen (2014) state, social media enables the exchange of social capital within migration networks, which decreases the barriers to migration since information, resources, and support become more accessible. In this respect, social network sites facilitate the creation of communities of interest, where shared interests rather than preexisting personal relationships form the basis for connection (Boyd & Ellison, 2007; Dekker & Engbersen, 2014; Dekker et al., 2015; Haythornthwaite, 2005; Wellman, 2001). However, as Notley et al. (2024) argue, digital inclusion often becomes a burden for low-income migrant families, as financial, social, and emotional barriers limit their ability to fully benefit from technological opportunities.

Furthermore, socio-digital vulnerability, defined as a susceptibility to challenges within mediated environments, affects migrants' experiences and influences their decision-making (DiPaola & Calo, 2024). Digital inclusion proves essential for vulnerable groups, including migrants, as it intersects deeply with issues of social exclusion and inequality (Tsatsou, 2021). Thus, social media and migrant networks play a dual role in migration, reducing threshold costs while potentially creating information asymmetry (Obi et al., 2020). Although digital tools facilitate networking for migrants,

they can also increase vulnerabilities, particularly for women, children, and persecuted minorities (Bartolomei & Cava, 2024). The concept of vulnerability in migration is inherently multifaceted, encompassing subjective, situational, and structural dimensions (Bartolomei & Cava, 2024).

At the same time, social media is also known to assist in civic and political engagement, contributing to what others have called "digital hope" for inclusion (Malafaia et al., 2013). In addition, studies have implemented digital media systems to facilitate e-participation to make sure the voice of migrants is heard in civic issues (Laanpere et al., 2011). However, as Dekker and Engbersen (2014) remind us, the possible benefits social media brings to migrants such as better information and connection to migration networks, should be tackled cautiously. There are worries about online connections, particularly regarding their quality and reliability. These media can also be used for propaganda, or disinformation that constrains the migrant decision-making processes. Dekker et al. (2015) reinforce this concern by emphasizing that while social media provide essential connections and information, their quality and reliability can vary, sometimes leading to misinformation that may negatively affect migrant decision-making processes and their perceptions of belonging to a social group.

As for the use itself of ICT, research underscores that migrants heavily rely on social networks and online resources to find essential information related to employment, living conditions, and other aspects of life in their new countries. Nonetheless, this reliance is designed by factors such as language barriers, technological challenges, and cultural differences, which can hinder effective access and usage of these resources (Beretta et al., 2018; Komito & Bates, 2011).

Moreover, access to reliable information on health and safety is crucial for migrant well-being, yet literature shows that socioeconomic, educational, and legal factors often exacerbate the difficulties migrants face in accessing health services, which heighten their vulnerability (Ferreira, 2023). Additionally, access is also often restricted by obstacles like language, cultural differences, digital divides, unfamiliarity with information systems, and psychological hurdles (Beretta et al., 2018; Jinia et al., 2021).

Indeed, evidence shows that studies on stress and mental health among migrants in Portugal highlight the importance of tailored approaches that address specific vulnerabilities related to these sociodemographic variables (Monteiro & Serra, 2011). Moreover, the provision of culturally sensitive information and the role of libraries in promoting social inclusion are highlighted (Beretta et al., 2018). Digital platforms play

an essential role in delivering health and safety information to migrant workers, with positive outcomes for their well-being (Moyce & Schenker, 2018).

In the health domain, digital information-seeking is notably common among migrant populations, showing promise for easing health system access barriers (Zysset & Dratva, 2020). Yet, migrants frequently face difficulties in finding and understanding health-related information, particularly during crises such as the COVID-19 pandemic (Brønholt et al., 2021). Language limitations and varying levels of digital literacy often impact their ability to access a broad range of sources. Older migrants, for example, often prefer traditional resources like doctors, family, and local media over digital options (Goodall et al., 2014). While digital health resources are promising for reaching vulnerable groups, especially in areas like maternal and child health, evidence on effectiveness remains limited for some countries (Zysset & Dratva, 2020).

3. The Role of Belonging and Social Identity

Research into the influence of digital media on migrants' sense of belonging and social identity highlights social media platforms as essential tools. These platforms allow migrants not only to uphold their cultural traditions but also to ease their transition into new environments (Park & Gerrits, 2021). In this sense, social media enables migrants to build connections locally and transnationally, linking them back to their countries of origin while connecting them with various social, economic, political, and religious organizations, both national and transnational (Valsdóttir & Lubbers, 2023). Using the applied context of the Somali migrant women, social media use is intertwined with their gendered experiences, as it provides a means to sustain diaspora connections across borders (Ponzanesi, 2021). More frequent engagement with digital platforms has been associated with a stronger sense of belonging to both their homeland and the host country (Ponzanesi, 2021; Valsdóttir & Lubbers, 2023). However, although digital media can reinforce ties with cultural origins, they can also diminish migrants' attachment to their host countries (Madenoglu, 2022).

In this regard, digital spaces cultivate a collective sense of “digital togetherness,” supporting identity development and community for migrants by helping them uphold cultural bonds and self-identity despite physical distance from their homeland (Marino, 2015). Within these online communities, migrants create shared identities through language, culture, and personal storytelling, which fosters a feeling of emotional security and acts as a stable social anchor that spans borders (Marino, 2015). In addition to

emotional support, these digital communities also provide practical resources such as assistance with housing and job opportunities, which contribute to the migrants' ability to adapt to new settings and establish supportive offline networks (Marino, 2015). In this respect, ICT lies at the heart of what shapes migrants' transnational practices as flexible technologies for maintaining cultural identities while embracing cosmopolitan values. It allows migrants to stay in touch across borders and forge intergenerational solidarity and collective action in ways that nurture a sense of multiple belonging and de-territorialized life (Nedelcu, 2012).

These observations underscore the complex role of digital media in shaping identity and relationships across transnational spaces. Social media platforms reshape traditional social structures by offering a means for sharing both resources and social capital. They also facilitate transnational social spaces where dispersed communities can find both emotional and social cohesion (Marino, 2015). Through these spaces, migrants can maintain ties to their cultural roots while forming new connections in the host country, thus developing layered identities that encompass both belonging and integration (Bello, 2014).

Taken together, digital spaces empower migrants by providing an arena for self-expression and visibility, which strengthens their social identities and participation in public life in both home and host countries (Marino, 2015). These platforms enable migrants to assert their identities, honour cultural connections, and strengthen their place within the diaspora community, helping them balance dual identities across national divides (Marino, 2015). Ultimately, their involvement in these online spaces fosters self-esteem and social connectedness, encouraging adaptation and empowerment through the shared narratives and support networks that define “digital togetherness” (Marino, 2015).

4. Research Gap and Applied relevance

Nowadays, literature shows that ICT and social media reconfigure migratory networks and information flows, with effects on the circulation of resources and the coordination of mobility (Dekker & Engbersen, 2014; Dekker et al., 2015). These environments also (co)construct transnational belonging and identities, articulating links “here and there” (Marino, 2015; Valsdóttir & Lubbers, 2023). In parallel, studies on transnational families document everyday digital uses that maintain cultural ties and routines, making the technological mediation of social life visible (Barros, 2023).

However, the evidence is ambivalent: the same devices and platforms that expand opportunities can reinforce socio-digital boundaries and vulnerabilities through inequalities in access/skills “digital divide” and informational risks (Bork-Hüffer, 2022; Tsatsou, 2021). In lower-income contexts, even when access is available, digital access may not translate into clear benefits, since this is not guaranteed due to discrepancies in digital literacy and access to appropriate tools. As noted above, the digital ecosystem consists of a set of opportunities and capabilities that are not always in place (Barros et al., 2024; Barros & Ganito, 2024; Notley et al., 2024).

In the Portuguese context, knowledge remains limited and fragmented when it comes to ICT-mediated integration of intra-EU migrants: existing research is often sectoral (e.g., access to healthcare or migration stress) and does not focus much on digitally mediated mechanisms of access to information, belonging, and identity (Ferreira, 2023; Monteiro & Serra, 2011). This fragmentation contrasts with international lines of research that already link informational practices to social inclusion and integration (Beretta et al., 2018) and supports the need for qualitative studies capable of capturing processes, meanings, and mechanisms in depth.

As a subject of study, ICT-mediated integration is relevant to Psychology and Behavioural Science because it clarifies how digital environments shape perceptions of credibility, decision making heuristics, belonging and vulnerabilities. Specifically, it is extremely important for Applied Psychology in Business and Economics because it provides a basis for designing public and organisational services and policies, particularly in communication, e-participation, recruitment and onboarding, which reduce barriers, increase informed participation and promote well-being and inclusion.

II - Methods

1. Research Design

The present research adopted a qualitative methodology to investigate the impact of digital media on EU migrants' integration processes living in Portugal. The research was informed by a post-constructivist paradigm framework, as it is acknowledged that meanings given to migratory processes are socially constructed, and these are subject to contextual, relational, and cultural factors in behavioural dynamics (Charmaz, 2006, 2009; Ratner, 2002; Tsatsou, 2021). This framework is particularly relevant to understanding complex social phenomena, such as the ways migrants experience

integration through digital technology amidst systemic inequality (DiPaola & Calo, 2024).

The method of analysis employed was a reflexive thematic analysis (Braun & Clarke, 2006) that allowed an inductive and interpretative examination of the lived experiences of participants in examining their complex social interactions. The approach enabled examination of subjective meanings and intricate socio-digital interactions that influence integration trajectories (Marino, 2015).

2. General objective and specific objectives

This research aims to examine how ICT shapes the integration of intra-EU migrants in Portugal, especially regarding access to information, belonging, and social identity. It considers both the opportunities offered by digital networks and the barriers created by inequalities in access, skills, and benefits. To operationalise the topic, the specific objectives are:

1. Describe how ICT and devices are used by intra-EU migrants residing in Portugal to access information, services and rights, namely health, employment, education, regularisation and housing.
2. Analyse when and how these uses function as facilitators or obstacles to integration and adjustment processes, such as language barriers, digital literacy, costs, credibility of information, online bureaucracy.
3. Explore how online spaces and practices contribute to belonging and identities, including the mobilisation of close relationships, wider contacts and participation in communities of interest.
4. Identify socio-digital vulnerabilities in everyday life, specifically misinformation, online aggression/discrimination, dependence on intermediaries, precarious access/resources, surveillance, and understand the strategies used to address them.

3. Participants

The participants in the study were Portuguese migrants ($N = 16$), aged between 20 and 73 years ($M = 38.69$; $SD = 16.58$). According to their self-identification, some were female ($n = 9$), and some were male ($n = 7$). More information regarding sociodemographic profile can be found in table 1 in the appendix. The criteria for

inclusion were that participants: (1) were born in a European Union country other than Portugal; (2) had been living in Portugal for at least one year; (3) used digital platforms or devices on a regular basis. Participants were chosen through purposive sampling to guarantee migratory route diversity and digital experience pertinence to the study. This emphasis on digitally engaged participants supports current literature that underscores the increasing significance of online networks in shaping migrant integration (Dekker & Engbersen, 2014).

4. Instruments

A semi-structured interview guide was developed via an extensive literature review and matched against the study objectives. It had seven thematic blocks: (1) introduction, where we provided an overview of the topic; (2) digital platform usage, where we seek to explore access, devices, platforms, and usage patterns. (e.g. "How often do you use ICT?" and "What are the digital platforms you use the most?"), (3) integration and inclusion, where we tried to capture how ICT contributed to the creation of local and transnational ties, civic participation, and experiences of inclusion or exclusion, exploring who they talk to, the people they know, the events and activities they participate in, in order to understand the role played in integration processes (e.g. "Do you participate in cultural activities or celebrations organised by online communities?" and "What are the online communities/groups you seek out? And why?"), (4) access to information, where we tried to understand how ICT helps access to services and bureaucracy, health, security, and perceived impact on well-being (e.g. "When you need information regarding the acquisition of an official document, how do you go about obtaining it?" and "Do you feel that this online presence allows you to be more informed about your rights and duties in Portugal?"); (5) Sense of belonging and identity, where we explored cultural identity, the maintenance and adaptation of practices, as well as the role of social networks in both countries - of origin and residence, including questions about the maintenance and creation of habits, among others (e.g. "Does access to digital means help you maintain cultural traditions from your country of origin?", "Do you consider Portugal your country/second country or one that is not part of you?" and "What is the role of social networks in maintaining ties with family or friends who still live in your country of origin?"); (6) challenges and vulnerabilities, where we aim to identify barriers, the use, adequacy of digital services to the needs of the migrant community, online discrimination, risks and effectiveness of ICT in emergency situations, thereby mapping access

asymmetries (e.g. "Have you faced situations of prejudice/discrimination online? How did you deal with that situation?" and "Do you feel that your migrant status makes you more vulnerable to digital issues, such as lack of access or exposure to fraud? If so, can you provide examples?"); and (7) final reflections, where participants had the time to add insights freely.

5. Data Collection

Recruitment occurred via a *Qualtrics* registration form distributed on social media websites (*Instagram*, *LinkedIn*, *Facebook*) and emails targeted to migration-focused organizations. Qualified respondents were sent a follow-up form with a sociodemographic questionnaire and informed consent.

Interviews were conducted via *Zoom* from February to April 2025. Sessions lasted between 30-60 minutes. After obtaining informed consent, all interviews were audio recorded, transcribed, and anonymised. The recordings were deleted, and only the author of the dissertation and the supervisor were given access to the interviews for the analysis that we will explore in the next section. As this study is part of a research project conducted by the academic supervisor as PI (Barros, 2024-), the ethical approval was granted by the Ethics Committee on Technology, Social Sciences, and Humanities of the Universidade Católica Portuguesa, following the rules and standards of research established by the APA (2018).

6. Data Analysis

Data was examined using Braun and Clarke's (2006) reflexive thematic analysis with the assistance of *N-Vivo* (ed. 15) software. The procedure involved four iterative phases: (1) familiarization with the data; (2) generating initial codes; (3) developing and refining themes; and (4) building an interpretative narrative.

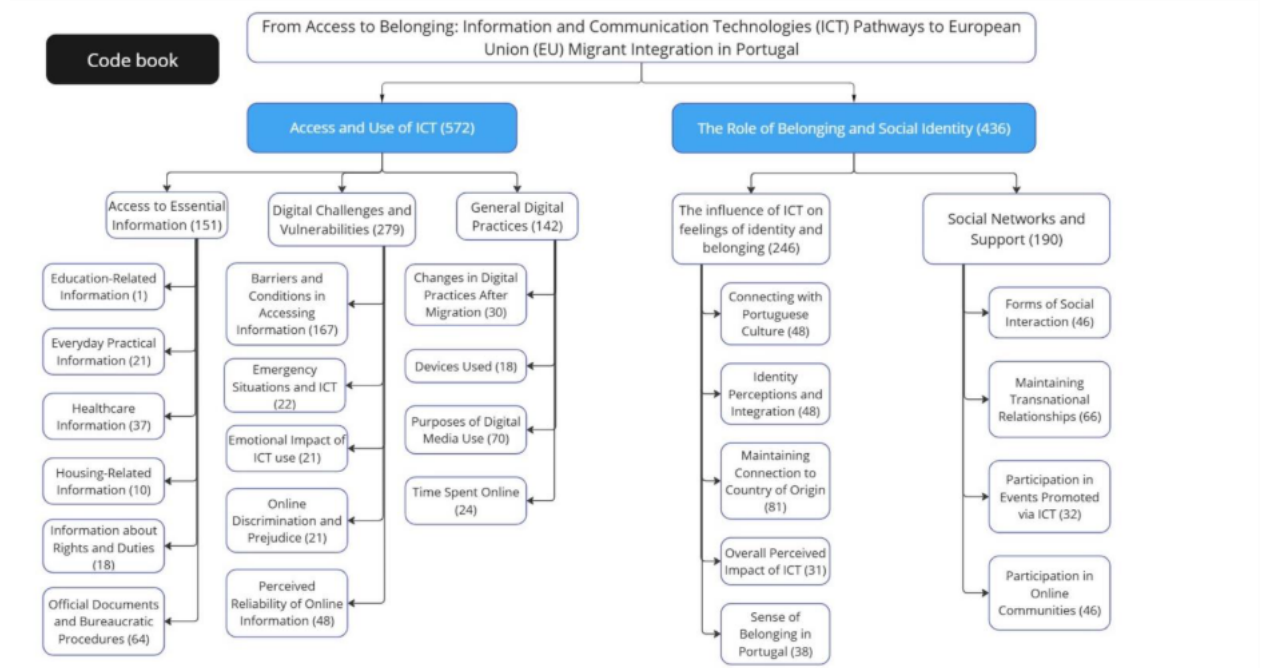
Themes were primarily generated through an inductive process that was data-dependent, emphasizing the complexity and richness of participants' narratives. This process remained analytically true to participants' lived experiences and was sensitive to the contextual nuances of their integration processes (Charmaz, 2006; Guerra, 2006; Marino, 2015).

Analytic decisions were regularly discussed with the academic supervisor who had been a data consultant, to test methodological rigour, consistency, and reflexivity. Data saturation was deemed to be achieved following the sixteenth interview.

Attached below are the category tree and the respective references to the analysis in the software (figure 1).

Figure 1

Code Book



Given the limited work undertaken in Portugal on EU migrants' digital integration from a psychology perspective, this research presents novel empirical insights into the role of digital media on integration trajectories, drawn from participants' lived experiences and supported by contemporary migration scholarship (Barros, 2021, 2023, 2024; Malafaia et al., 2013).

III - Results and Discussion

With the goal of exploring individual perceptions and tackling their social meanings in light of scientific literature (Braun & Clarke, 2006; Charmaz, 2009), it was decided to present and discuss the data at the same time.

This study aimed to explore how digital media shape the integration processes of EU migrants living in Portugal. Specifically, it investigates how digital platforms facilitate or hinder migrants' adjustment and integration; in what ways digital environments impact access to services, information, and rights; how online spaces

influence migrants' sense of belonging and identity; and what digital vulnerabilities emerge in the everyday experiences of migrants.

1. Access and use of ICT

We explored this topic by trying to understand how digital media are used to access essential information, namely information on education, housing, everyday problems, health, rights and duties, official and bureaucratic documents, and general ICT usage practices, such as changes in digital practices after the migration process, which devices are used, the main objectives of ICT use, and the time spent using it.

In this regard, the topics that stood out the most were the purposes for which they use ICT, which was mentioned by all participants, with 70 references, and access to acquisition information and processes for obtaining official and bureaucratic documents, also mentioned by all participants, with 64 references.

Moreover, we sought to understand, in general terms, the digital challenges and vulnerabilities experienced, namely the barriers and conditions in accessing information, the role of digital media in emergency situations, the emotional impact of digital media, how online discrimination and prejudice manifest, and the perception of the reliability of online information.

In this sense, the topics that stood out the most were the barriers and conditions of access to information, which was mentioned by all participants, with 167 references, and the perception of the reliability of online information, which was mentioned by all participants with 48 references.

1.1. General Digital Practices

1.1.1. Purposes for using ICT

Analysing the 70 references to the purposes of using ICT revealed that participants mainly use for interpersonal communication, information seeking, entertainment and leisure, and work and instrumental tasks.

All of the participants stated that they used ICT to communicate. They referred to *WhatsApp*, *Facebook Messenger* and other instant messengers to keep in touch with family and friends, both in their country of origin and in their country of residence. As Catarina (P13) described:

“WhatsApp... because I live abroad, I am always in touch with my family and friends... it is crucial... every day I call my father, my mother and my brothers; and every week I talk to my friends in Italy.”

And Joaquim (P14) also mentioned: “I use WhatsApp to communicate with people I know, to send and receive files [...] video calls were essential for talking to my mother and my children who lived abroad.”. These uses indeed confirm the central role of social networks and messaging apps in maintaining migrant networks (Dekker & Engbersen, 2015; Komito, 2011). Dekker & Engbersen (2014) complement this result by showing how social networks not only maintain but also transform migrants' support networks, extending their reach and frequency of interactions.

Moreover, all participants mentioned using ICT to search for information, being mentioned over 60 times. In this sense, communication and information seeking were the most mentioned purposes, supporting the findings of the most recent report from INE stating that these two topics kept being the main online activities among individuals aged between 16 to 74 years old.

In fact, the search for information stood out as a daily practice aimed at acquiring knowledge, keeping up to date and making informed decisions.

For half of the participants, the use of platforms such as *X*, *Facebook*, *Instagram*, or *Google* is not limited to entertainment, but responds to a clear intention to stay informed about different aspects of their personal and social reality. As Catarina (P13) describes: “*WhatsApp* is the first [...] after *Facebook* and *Instagram*, a bit like a newspaper. I see the news, what's happening on a daily basis, politics, sport, whatever.”. Similarly, Duarte (P4) uses *X* to obtain information quickly and directly: “*X* is mostly for information. I feel like you do get information quite quickly.”

Although the content sought is diverse (explored in a separate topic), the underlying motivation is common: the need to communicate, quick, autonomous and up-to-date access to relevant information, which underpins much of the participants' digital interaction.

In addition, most participants also highlighted leisure and entertainment as one of the purposes of using ICT. As Rui (P3) points out: “It's more for entertainment, that is, to fill my time or keep myself busy.” and Joana (P5) also highlights “I use *Instagram* a little for leisure, to see what people post, and also for educational purposes, as there are recipe videos.”

Finally, around three quarters stated that they use ICT for work and/or study. As Teresa (P6) mentions: “Then I use *Gmail* [...] to find out news about something at work or to talk to customers too.” and João (P1) also states: “The main ones...we use search engines like *Google* [...] we work with *Google Docs*.”. These testimonies illustrate how ICTs have become infrastructures of migrants' daily academic and work lives, articulating strong and weak ties for information search, document co-production, and distance coordination, a pattern consistent with the literature on network connectivity and online collaboration (Haythornthwaite, 2005) and with evidence that digital media expand the informational reach and opportunities in migrant networks (Dekker & Engbersen, 2014, 2015), while intertwining professional and personal spheres with ambivalent inclusion/exclusion effects (Bork-Hüffer, 2022).

1.2. Access to Essential Information

1.2.1. Access to information and processes for obtaining official documents and carrying out bureaucratic procedures

Regarding this theme, we examined how access to information and processes for obtaining official and bureaucratic documents works and how it is characterised, in order to better understand its nuances.

In fact, this topic was highly relevant, being mentioned by all participants, with around 64 references.

About three-quarters of participants described hybrid paths to resolving procedures: they start by searching online (the “how”, “where”, “when”) and then follow up in person at the counter/service desk. In other cases, they start in person and continue online (submissions, forms, follow-up). This back-and-forth is presented as a strategy to reduce uncertainty and break deadlocks, especially when the information is ambiguous or the digital response is slow. As Rita (P2) points out: “Yes, I usually use the internet just for information, to see what needs to be done, and then I go straight to the counter in person.” This is also emphasized by Madalena (P8): “I search online. And then if I can't find the answer, that's when I go to the services. But the first way, yes, is online.”

In addition, all participants reported combining digital and interpersonal sources. On the digital side, search engines and official websites prevail (due to their perceived greater reliability, which will be discussed later), but also online groups/communities (*Facebook/WhatsApp*) for “operational tips” and recent experiences. On the interpersonal side, Portuguese friends/colleagues, family and, when available, Human

Resources/accountants or other related professionals are central. This mixed ecosystem allows for the cross-referencing of “rule-based” instructions with practical knowledge (“how it's actually done”), reducing the risk of error, as illustrated by Bruno (P7):

"I would say, yeah, I would say both, like first asking friends, like Portuguese friends... Then I was looking on the internet for additional information, such as where the office is, when it's open, and what documents I need to bring... So both, I would say."

This pattern confirms the role of social networks and social capital in migrants' information experience (Beretta et al., 2018) and reinforces the importance of collaborative online forums for bureaucratic knowledge (Komito & Bates, 2011).

It should also be noted that around one third reported direct use of official portals and apps (e.g., Portal das Finanças [Finance Portal]/e-Fatura, Sistema Nacional de Saúde 24 [Health System], Segurança Social Direta [Social Security Portal]) to perform tasks (submit requests, validate invoices, monitor processes) or receive guidance (requirements, costs, documents). Adoption is seen as useful and growing, although not universal: several participants prefer to maintain the hybrid model as stated before, using the platforms to prepare/advance and the in-person model to ensure completion, as mentioned by Pedro (P9):

"I remember back then, half of it was not translated... I needed to use the translation function... now I think the information is very clear... It has the categories, costs, who can apply... but there are also other sites... the information is super unclear... the website looks like from 1995... it's all in Portuguese only."

These findings demonstrate the growing use of e-government as a tool for bureaucratic self-service, in line with studies on the digital inclusion of migrants, which highlight the role of public portals in reducing dependence on intermediaries (DiPaola & Calo, 2023; European Commission, 2023).

Finally, the mobilised additional support to overcome grey areas were Human Resources teams, lawyers in more complex or urgent cases, and peers (friends/colleagues) with previous experience. At the same time, online communities function as a “social helpdesk” – useful for confirming steps, understanding the order/priority of actions, and anticipating variations between service desks. This situation seems to be common, as Catarina (P13) illustrates:

"The NISS [Social Security number] number was my company... when I arrived, they told me, “You have to do everything... we cannot help you”. And that's why

I had to pay a lawyer... then I changed company and the second one helped me with the NISS [Social Security number] ... On *Facebook*, someone posted the timeline... ‘in February, we need to accept all the invoices... in April, we need to do it.’”

These strategies are mainly used when there is procedural ambiguity or time pressure. This recourse to professional intermediaries highlights the seriousness of digital impediments and confirms that migrants invest time and financial resources to ensure that documentary requirements are met (Bartolomei & Cava, 2024).

1.3. Digital Challenges and Vulnerabilities

Regarding this theme, the topics that stood out the most were the barriers and conditions of access to information, with 167 references, and the perception of the reliability of online information, with 48 references, both mentioned by all participants.

1.3.1. Barriers and conditions of access to information

The most frequently mentioned barriers and conditions for accessing information relate to the issue of clarity and centralisation of information, such as language barriers, digital literacy and generational differences, and, finally, the trustworthiness and usability of platforms.

With regard to the clarity and centralisation of information, it is important to mention that the European Commission, in its recommendations, has already discussed the importance and need for unified government portals to create integrated e-Gov platforms in order to reduce the cognitive load on the user (European Commission, 2023; DiPaola & Calo, 2023). However, Portugal is still taking its first steps in this direction. In fact, a large part of participants (10) mentioned that the information is scattered, unclear and misaligned between what is written online, such as the processes, and what actually happens in public services in person. In fact, there is a desire for a pragmatic online site with consolidated information. As Bruno (P7) shows:

“Just one website that there is all the information that you want to move there. You need this, this, this and that. ... now everyone has to look in one website... then another one... and then, and then, and then.”

And Maria (P12) reinforces: “There was some information online... when I went to the location, it was a different situation. The website was not reflecting the correct information.”

Moreover, the language barriers were pointed out as a major problem by half of the participants.

Pedro (P9) mentioned: “I remember back then, half of it was not translated... [the ministerium] is all in Portuguese only.”, Catarina (P13) also referred: “Not really easy... most of the time they were written in Portuguese... we have *Google* translator, but it’s not super easy.”, and Rui (P3) added the difference on access in case you do not know Portuguese: “If you don't speak Portuguese, it's much harder to find the information you need.”

In this sense, many participants felt that the insufficient supply of multilingual content hinders understanding, especially when only parts of websites are translated. This limitation reinforces second-level digital exclusion (Fung et al., 2025; Malafaia et al. 2013; Van Dijk, 2005; Warschauer, 2003) and the concept of socio-digital vulnerability, as the lack of versions in English or other languages, creates exclusion in access to essential services (DiPaola & Calo, 2023; Tsatsou, 2021). This raises further reflection on the role of ICT in the integration of these populations into society, as it demonstrates its ambivalent role: on the one hand, it allows faster and more personalised access, but on the other, it excludes or hinders access for those who do not meet certain criteria compared to the rest of the population, placing these individuals at a disadvantage.

Lastly, within this topic, the usability and responsiveness of the platforms was also widely discussed, having been mentioned by half of the participants. In this regard, they tell us that it is very difficult to obtain a timely response, that there is no follow-up, that the processes do not move forward, often leading to in-person visits, which is what they were trying to avoid in the first place. Thus, Pedro (P9) describes how he is still being paid a pension below the legal minimum, and has never received a response: “At Social Security... VISA 360... I have ~12 open cases because no one reads them... I went in person and they shut us out at the counter”.

Joaquim (P14) adds: “I made a complaint online... they never replied... I'm still waiting after several years.”, and Rita (P2) reiterates: ‘In the public health service, digital contact is complicated... you have to go in person.’

It is important to reflect on these findings since, once again, ICT, which have great potential widely referred to in the literature to facilitate the integration process, especially for migrants from EU countries, where their processes are less bureaucratic, but end up creating entropy and duplicating the efforts that each individual has to make to acquire

basic human rights, such as retirement, access to the national health system, among others.

1.3.2. Reliability of online information

Although the perception of the reliability of online information was a much-discussed topic, mentioned by all participants, with 48 references, it was not possible to identify several subtopics that were most frequently mentioned or agreed upon among perceptions and opinions. A minority of participants (3) say they trust it, and only one says they do not trust it at all. However, the remaining participants, the majority, say they trust it only when certain conditions are met. These conditions were not consensual, with several being pointed out. The most relevant were trust only in official sources – this hierarchisation is in line with the “authority of the source” criterion described by Fogg (2003) as one of the main determinants of perceived reliability - mentioned by four participants, Rita (P2): “I only trust it if it is, I don't know, official, from the government, from a government entity... If it's information like that, I can't trust it, no.”, Pedro (P9): “If it's from *Gov.pt*, yes. If it's from lawyers or *Reddit* or blogs, then no.”, Sofia (P15): “I always prefer to look at government websites... the NHS app and the website itself have lots of useful information.” and Madalena (P8): “When I go directly to the services... I look at the websites directly... then I think so.”

After confirming with other people or checking several websites, reflecting the “check-and-confirm” model identified by Flanagin and Metzger (2007) as central to validating information on the internet, as mentioned by João (P1): “We have to research several sources... We have to see, we have to confirm with the sources.”, Joaquim (P14): “The truth is relative... I take what I read... I look for more information... so that I can make a decision.”, Mariana (P10): “I get information from various... sites... I can reach my conclusion... access more reliable information on the internet” and Carlos (P16): “I always prefer to confirm the same information with an operator”.

Nonetheless, half of the participants point out inconsistencies and discrepancies between online and in-person information, that is, finding contradictory or incomplete information online, requiring in-person validation, as described by Catarina (P13): “I went to a citizen's bureau... the internet said to go there... we couldn't do anything... the lady said, “no, we don't do that here” and by Maria (P12): “there was some information online... when I went there, it was different... the website did not reflect the correct information.”. Similarly, Rute (P11) said: “They seem clear, but then... it's always slightly

different and depends on the person handling your case.”. Among other participants, this may reveal a generalised perception of mistrust in the information found online, presenting itself as a vulnerability to which the migrant community is subject.

The poor response of electronic systems, compared to face-to-face service, highlights usability and human support problems, as described by Bartolomei and Cava (2024). Face-to-face service was also described as deficient, since the same service has different approaches and applies different rules to the same processes, creating confusion and frustration and contributing to the difficulty of integration in a new country.

To summarise, perceived trustworthiness emerges as a conditional process and as a result of a balance between the authority of the source (Fogg, 2003), the active verification strategy (Flanagin & Metzger, 2007) and other factors. Reliance on official sources and face-to-face or telephone confirmation highlight that, even in a highly digitalised context, trust continues to be built in a hybrid way: part online, part human, and this poses important challenges to better understand integration pathways.

2. The role of Belonging and Social Identity

In this section, we examine the role of belonging and social identity, by trying to understand and map the social networks and support systems, which was referred by all participants - with 190 references - namely the forms of social interaction, the maintenance of transnational relationships, the participation in events promoted via ICT and the participation in online communities.

In this regard, the topics that stood out the most and were mentioned by all participants were maintaining transnational relations, with 66 references, and with 46 references the forms of social interaction within social networks and participation in online communities.

Moreover, we also studied the influence of ICT on feelings of belonging and identity, mentioned by all participants, with 246 references, which entails the connection with the Portuguese culture, country of origin, identity perceptions and integration, overall perceived effect of ICT and the sense of belonging in Portugal.

In this sense, the topics that stood out the most and were mentioned by all participants were the maintenance of connection with the country of origin, with 81 references, followed by the connection with Portuguese culture and identity perceptions and integration, with 48 references each. We sought to analyze these findings together as they relate to each other and provide a more comprehensive explanation together.

2.1. The influence of ICT on feelings of belonging and identity

We explored this topic mentioned by all participants, with 246 references, in an attempt to understand, in general terms, the influence of ICT on feelings of belonging and identity, namely by exploring the connection with the country of origin, with 81 references, the connection with Portuguese society and the identity and integration processes, with 48 references each, and the feeling of belonging per se in Portugal, with 38 references. These topics will be analyzed together to provide a better comprehension of the findings.

Analysis of all references shows that the use of ICT profoundly shapes migrants' sense of belonging and identity, acting simultaneously on four interconnected axes: transnational connection, local integration, perception of hybrid identity, and self-efficacy and personal growth. Transnational connection was the area where there was consensus among most participants, while for the other topics it was not possible to find consensual main ideas.

Firstly, with regard to transnational connection, most participants (10) stated that ICT is a fundamental link to their country of origin, highlighting communication platforms such as *WhatsApp*. National news from their countries of origin and video calls were also highlighted. In this way, participants said they felt more connected to their countries of origin, maintaining family ties and contact with the cultural/political current affairs of their countries. As Catarina (P13) said: “I talk to my family and friends in Italy every day... I feel really, really connected to my country thanks to social media.”, and Joaquim (P14): “I can watch Italian television... listen to Italian radio via the internet... I can maintain connections with Italy in this way.”

In this sense, synchronous communication tools (e.g., video calls, instant messaging) seem to reinforce emotional attachment to the country of origin, alleviating nostalgia and strengthening cultural rituals. This is in line with the concept of virtual belonging described by Bello (2014), which refers to how migrants build and maintain senses of belonging through ICT, contributing to the integration and cohesion of the diaspora, and Nedelcu's (2012) idea of transnational habitus, which describes how the daily use of ICT creates a practical and affective transnational disposition: routines of connected co-presence – video calls with family, bilingualism in everyday life, among others –, skills to act at a distance in real time and circulate between multiple social worlds, which can contribute to integration. Furthermore, Barros (2023) reinforces this

pattern by showing how Portuguese emigrants maintain intergenerational family relationships through face-to-face and online digital spaces, playing a central role in psychosocial resilience and adaptation in the context in which these people live.

Furthermore, with regard to local integration, social networks and event platforms (*Instagram, Facebook*) act as guides. As Park and Gerrits (2021) observed in their study of Koreans in Germany, migrants use these channels to discover local festivals, fairs and traditions. In the present study, the same was true, with almost a third of participants (6) saying they use *Instagram, Facebook* and local websites to discover events/neighbourhoods, learn the language and “get into” Portuguese cultural routines, as Bruno (P7) states: “with digital media... I discovered more events in Lisbon... and also learned the language... *Duolingo*... for example, the carnival in Torres Vedras... I learned online.”, and João (P1):

“when we see some events on the internet that we are interested in seeing... it was through digital media that I discovered them”; “we can go on social media and [...] visit the pastéis de Belém and discover things that way.”,

promoting community involvement and a sense of belonging to the national space. Valsdóttir & Lubbers (2023) confirm that these media also shape the daily practices of belonging of Spanish emigrants in Iceland, illustrating the transversality of this phenomenon.

The concept of hybrid identity emerges, in which migrants feel simultaneously connected to their country of origin and to the new context. Almost half of the participants claim to articulate a dual sense of belonging, that is, seeing Portugal and their country of origin as their first and second home or vice versa, as explained by Joana (P5): “My second home is, yes. My second home is, but I can't consider it to be Portuguese.”, João (P1): “For me, it's... my main country, Portugal... However... the small part that is Lithuanian remains very important.”, Pedro (P9): “Second country, yeah. Or actually first country... the present is here and the future too.”, among other participants.

Finally, access to information and support via digital media might confer self-efficacy and accelerate personal growth. For some participants (6), the use of ICT is associated with independence, confidence and maturity, feeling capable of solving and managing problems in a new language and culture, as Catarina (P13) reports:

“Starting to work in a foreign country helped me gain more confidence in myself, more independence [...] if I solved problems in a country that was not my own... I can certainly do it in Italy.”

Duarte (P4): “I think... I've matured... I would say I'm a more open person... I think it's... a Portuguese thing... I've changed. More open.”, and Carlos (P16): “I grew up... I saw other ways of being... it influenced my position afterwards.”

The digital environment functions as a hybrid ecosystem that simultaneously sustains transnational identities, facilitates integration in the host country, shapes intercultural identities and empowers migrants as active agents in their journey of belonging. These dynamics conceptualises as digital togetherness, whereby online environments foster emotional bonds, mutual support and collective identity among migrants navigating hybrid cultural realities. These results corroborate bioecological approaches (Bronfenbrenner, 2005) and perspectives on transnational belonging (Ponzanesi, 2021), while pointing to the centrality of digital media in the ongoing negotiation of identity in migratory contexts.

2.2. Social Networks and Support

We explored this topic by trying to map out how support works through digital media, particularly through social networks. To do this, we explored forms of social interaction, which was mentioned by the majority of participants, with 46 references, maintaining transnational relationships which was mentioned by all participants, with 66 references, taking part in events promoted through digital media, which was mentioned by most of the participants, with 32 references and participating in online communities, which was mentioned by all participants, with 46 references. Overall, there were 190 references amongst all participants as mentioned prior, with 66 references to maintaining transnational relations and 46 references to forms of social interaction within social networks. We will analyze these findings together as they relate to each other.

All participants mentioned that ICT, particularly social networks, are used to emotional support, as illustrated by Bruno (P7): “It's crucial...I call, I send messages, we video chat... these things are essential.” and Catarina (P13): “I talk to my family and friends in Italy every day... I see photos... I feel really connected to my country thanks to social media.”, by more than half of the participants for sharing practical information as an instrumental support (tax deadlines, housing, sales), as shared by Joana (P5): “groups... 'I am in Lisbon and I need to buy a chair...' they help each other.”, and by Rute (P11): “In a small town, groups help with local needs... sharing activities in free time.”, but also, for at least half of the participants, for brief interactions that feed their transnational relationships without much interaction, such as exchanging memes or short

content, allowing collaborative exchanges between migrants, as referred by Madalena (P8): "I send a photo and that's it... it's just a hello... "I thought of you"", and Maria (P5): "memes with my sister; voice memos when she's at work... planning meet-ups when I see an event."

Moreover, most participants stated that they turn to online communities - expatriate/ diaspora groups, groups of common interests, among others - to gather practical information, events and even to feel a sense of belonging to something, as exemplified by Maria (P12): "running club, yoga, Portuguese class... many things organised in Portugal.", and by Joana (P5): "Spanish groups on *Facebook*... connected you with people... seeking that feeling of unity".

In this sense, participation in online communities suggests that, in addition to transnational ties, communities based on shared interests emerge organically, where migrants create virtual "third places". This phenomenon reflects the role of digital media in creating "third places" that sustain social capital in migratory contexts (Dekker & Engbersen, 2014; Ganito, 2018; Goodall et al., 2014).

These findings are in line with the informed social inclusion model, in which digital media facilitate the informational inclusion of migrants through online social networks (Beretta et al., 2018; Komito & Bates, 2011). It is also worth mentioning that the literature shows that these exchanges reinforce intergenerational solidarity in transnational families, extending beyond mere informational support (Barros, 2021; Barros et al., 2025).

Lastly, the aforementioned patterns echo the notion of computer-mediated social networks, where digital platforms replace part of face-to-face interaction in maintaining social capital (boyd & Ellison, 2007; Wellman, 2001).

3. Limitations and Future Studies

This dissertation presents relevant contributions on the role of ICT in the integration processes of EU migrants in Portugal, but it also has limitations that should be highlighted to adequately frame the inferences drawn.

First of all, the qualitative sample of 16 participants was intentional and focused largely on individuals with reasonable levels of digital literacy. This limits the transferability of the results to age groups with lower digital literacy or in more vulnerable socioeconomic situations (Van Dijk, 2005; Warschauer, 2003). The very predominance of users of platforms such as *WhatsApp* and *Instagram* in the sample may have

underestimated the differentiated experiences of those who rely more heavily on offline channels or intermediaries to access services (Tsatsou, 2021).

Second, the study design was based on semi-structured interviews and thematic analysis, which offers interpretative depth but does not allow for quantifying the prevalence of certain behaviors in broader populations. As Braun and Clarke (2006) point out, thematic analyses are powerful for mapping meanings, but caution is required when generalizing the results. Furthermore, although documentary triangulation was applied in the literature review, mixed methods that could complement self-reported perceptions with objective behavioral measures were not used.

Finally, although the study focuses on sociodigital vulnerabilities, it was not possible to accurately measure socioeconomic variables or mental health indicators that would allow for the exploration of causal relationships between digital exclusion and psychological well-being (Monteiro & Serra, 2011). Therefore, conclusions regarding emotional impacts and digital risks should be interpreted as indicative and with some caution.

To sum up, the results warn against generalizations and reinforce the importance of future research, with more diverse samples and methods that allow the capture of the nuances of population subgroups. Intersectional analysis are also necessary to better capture the complexity of realities.

Regarding future studies and directions to be adopted to advance research on ICT and migrant integration processes it is recommended, firstly, to invest in longitudinal research designs that follow trajectories from arrival to settlement, in order to capture temporal changes in digital practices, trust in online sources and dynamics of belonging (Bronfenbrenner, 2005), and simultaneously encourage frequent use of mixed methodologies that combine qualitative interviews with behavioral data (usage logs, access metrics to public portals), quantitative methods (e.g., questionnaires) and, when ethically feasible, administrative records, in order to triangulate evidence and mitigate self-reporting biases (Flanagin & Metzger, 2007; Metzger et al., 2003). At the same time, it is crucial to broaden and diversify samples to include underrepresented profiles, such as elderly, seasonal, or less digitally literate migrants, in order to identify specific barriers and design targeted interventions (Van Dijk, 2005; Warschauer, 2003). In this sense, comparative intersectional studies between regions and countries can clarify the role of institutional differences and the maturity of *e-gov* services in the migrant experience,

aligning with the European Commission's recommendations on integrated platforms (European Commission, 2023).

Furthermore, it is recommended to test interventions in a real context through action research and co-design projects with migrant communities (e.g., unified multilingual portals, mobile-first digital literacy programs, assisted translation services), evaluating the impact on access to services and well-being and ensuring practical acceptability (DiPaola & Calo, 2023), while specifically investigating the usability and accessibility issues of digital public services through UX testing with migrant users to identify concrete points of friction (Bartolomei & Cava, 2024; European Commission, 2023). It is also important to delve deeper into digital risks and vulnerabilities, including fraud, misinformation, information overload, and emotional impact, to design educational materials and protection mechanisms adapted to migrant realities (Tsatsou, 2021; Bartolomei & Cava, 2024), as well as to develop digital ethnographic studies that map the role of virtual “third places” (game environments, podcasts, interest groups) in building social capital and mediating face-to-face encounters (Ganito, 2018; Goodall et al., 2014).

Finally, it is recommended to incorporate intersectional perspectives that consider gender, ethnicity, socioeconomic status, educational level, and migration status to identify particularly vulnerable groups (Nedelcu, 2012; Ponzanesi, 2021) translating the results into concrete policy recommendations and field experiments that transform academic knowledge into practical solutions to reduce socio-digital vulnerabilities and promote more inclusive integration (Dekker & Engbersen, 2014; Haythornthwaite, 2005).

4. Theoretical and Practical Implications

Despite these limitations, this study contributed to expanding the existing knowledge regarding the relationship and the role of ICT in the integration process of EU-migrants in Portugal.

The results reinforce the idea that digital environments function as hybrid psychosocial ecosystems that reconfigure migrants' communication routines, information evaluation heuristics, and experiences of belonging. In theoretical terms, this implies reinterpreting classic concepts of transnational belonging and social capital in light of infrastructures mediated by instant messaging and collaborative platforms: digital networks not only maintain ties (transnational and local) but also restructure the frequency, scope, and speed of exchanges (Dekker & Engbersen, 2014), affecting

processes of social identity maintenance and reconstruction (Nedelcu, 2012). Furthermore, evidence on active verification and preference for official sources suggests that informational credibility models should simultaneously integrate cognitive (source/authority heuristics), behavioral (check-and-confirm practices), and contextual (language barriers and usability) factors, as highlighted in the literature on online credibility (Flanagin & Metzger, 2007; Fogg, 2003; Metzger et al., 2003).

Finally, the observed overlap between personal and work domains (use of collaborative tools in associative and professional activities) supports a bioecological interpretation: the micro and meso levels (family interactions, work networks, associations) are now mediated by technical arrangements that amplify both resources and vulnerabilities (Bronfenbrenner, 2005; DiPaola & Calo, 2023).

From an applied perspective, the conclusions guide interventions on several fronts: first, the design of public portals and services should prioritize clarity, complete translation, and a user-centered experience to reduce exclusion due to language barriers and increase trust (European Commission, 2023; Tsatsou, 2021). Second, digital literacy programs and training in critical information evaluation are intended to mitigate the risks of disinformation and fraud, especially among younger groups (Van Dijk, 2005). Moreover, public and private organizations (human resources, health services, city halls) should integrate hybrid service channels, combining effective digital responses with accessible human options, because trust continues to be built through a hybrid approach (online and in-person), and automation without human support reveals operational flaws. Finally, in organizational and management contexts, recruitment and integration teams must recognize that ICT shapes both the migrant workers' support network and their expectations of communication and participation, so integration and support policies must include technical support, translation, and cultural mediation (Komito, 2011; Dekker & Engbersen, 2014).

VI - Conclusions

This study shows that ICTs permeate migrants' daily lives as relational and informational infrastructure. Messaging applications and social networks maintain and transform support networks, expanding the reach and frequency of interactions, in line with the literature on migrant networks and social media (Dekker & Engbersen, 2014, 2015; Komito, 2011). In parallel, systematic information seeking emerges as a daily practice for acquiring knowledge and making informed decisions, with search engines

and official websites structuring access to "rules of the game" and practical validations (INE; Haythornthwaite, 2005).

In navigating procedures, trajectories are hybrid: online and in-person stages combine with digital and interpersonal sources to reduce uncertainty and "break impasses." This mixed ecosystem confirms the role of social capital and collaborative forums in the circulation of bureaucratic knowledge (Beretta et al., 2018; Komito & Bates, 2011), while also reflecting the expansion of public self-service via e-Gov (DiPaola & Calo, 2023; European Commission, 2023).

Informational trust appears conditional and procedural: the authority of the source is prioritized, and a "check and confirm" model of active verification is adopted (Fogg, 2003; Flanagin & Metzger, 2007). However, discrepancies between written and practiced information and the poor responsiveness of electronic systems erode the credibility of digital information and redirect users to the counter, reinforcing already documented frictions (Bartolomei & Cava, 2024). Language barriers and information dispersion compound: an incomplete multilingual offering increases cognitive load and fuels "second-level" exclusions and sociodigital vulnerabilities (Fung et al., 2025; Malafaia et al., 2013; Van Dijk, 2005; Warschauer, 2003; Tsatsou, 2021), in a context where Portugal is still moving toward unified, user-centered portals (European Commission, 2023; DiPaola & Calo, 2023).

Beyond their instrumental function, ICT shapes belonging and identities. Synchronous communication mitigates nostalgia and sustains cultural rituals, reinforcing transnational belonging and "connected co-presence" (Bello, 2014; Nedelcu, 2012; Barros, 2023). Simultaneously, online platforms and events facilitate local integration and community participation (Park & Gerrits, 2021; Valsdóttir & Lubbers, 2023), while many participants narrate hybrid identities that combine ties to their home and host countries. For a subset, timely access to digital information and networks translates into self-efficacy, confidence, and personal growth. These patterns echo the notion of virtual "third places" and computer-mediated networks that maintain social capital and practical coordination (Dekker & Engbersen, 2014; Ganito, 2018; Goodall et al., 2014; boyd & Ellison, 2007; Wellman, 2001).

In summary, we propose the idea of digital togetherness: an intertwining of emotional bonds, instrumental cooperation, and cross-validation that is only fully realized when online and in-person spheres align. When this articulation fails – due to fragmentation, slowness, or lack of translation – the promised gains from ICTs turn into

entropy and duplication of effort. Thus, contemporary integration emerges as a sociodigital choreography where belonging, information, and trust are constructed iteratively across screens and counters, in line with bioecological perspectives and transnational belonging (Bronfenbrenner, 2005; Ponzanesi, 2021) and with evidence of intergenerational solidarity and support in the diaspora (Barros, 2021; Barros et al., 2025).

References

- Bacigalupe, G., & Parker, K. (2016). Conexões transnacionais através de tecnologias emergentes. *Nova Perspectiva Sistemica*, 25(56), 94–107.
- Barros, C. (2021). *Famílias pelo mundo: Solidariedade intergeracional em famílias transnacionais* [Doctoral thesis, Universidade de Lisboa].
<https://repositorio.ul.pt/handle/10451/50377>
- Barros, C. (2023). Connection in transnational families: Face-to-face and digital spaces in Portuguese emigrants. *Trends in Psychology*. <https://doi.org/10.1007/s43076-023-00309-4>
- Barros, C., & Hanenberg, P. (2024). An integral approach to well-being in transnational families: a brief proposal for best. *Social Sciences*, 13(3), 131.
<https://doi.org/10.3390/socsci13030131>.
- Barros, C., Hanenberg, P. & Santos, A. S. (2024) Reframing Relational Space. Migration From The Perspective of Those ‘Who Stay’. *Human Arenas*.
<https://doi.org/10.1007/s42087-024-00403-8>
- Bartolomei, M. R., & Cava, A. (2024). Vulnerability, digital technologies and international law: Reflections on contemporary migration flows. *Law, Technology and Humans*, 6(2), 1–26. <https://doi.org/10.5204/lthj.3310>
- Bello, Valeria. "Virtual belongings, dual identities and cultural discomforts: The role of Mediaspaces and Technospaces in the integration of migrants." *Crossings: Journal of Migration & Culture* 5, no. 2-3 (2014): 213-229.
- Beretta, P., Sayyad Abdi, E., & Bruce, C. (2018). Immigrants’ information experiences: An informed social inclusion framework. *Journal of the Australian Library and Information Association*, 67(4), 373–393.
<https://doi.org/10.1080/24750158.2018.1531677>
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review*, 46(1), 5–68. <https://doi.org/10.1111/j.1464-0597.1997.tb01087.x>
- Bork-Hüffer, T. (2022). Digital media, friendships and migrants’ entangled and non-linear inclusion and exclusion. *Urban Studies*, 59(16), 3330–3346.
<https://doi.org/10.1177/00420980221111994>

- Bosswick, W., & Heckmann, F. (2006). *Integration of migrants: Contribution of local and regional authorities*. European Foundation for the Improvement of Living and Working Conditions.
- Boyd, d. m., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210–230. <https://doi.org/10.1111/j.1083-6101.2007.00393.x>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32(7), 513–531. <https://doi.org/10.1037/0003-066X.32.7.513>.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, 22(6), 723–742. <https://doi.org/10.1037/0012-1649.22.6.723>.
- Bronfenbrenner, U. (2005). *Making human beings human: Biological perspectives on human development*. Sage Publications.
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review*, 101(4), 568–586. <https://doi.org/10.1037/0033-295X.101.4.568>
- Bronfenbrenner, U., Morris, P. A., Damon, W., & Lerner, R. M. (2006). *Handbook of child psychology: The ecology of developmental process*. Wiley Publishers.
- Brønholt, R. L. L., Langer Primdahl, N., Jensen, A. M. B., Verelst, A., Derluyn, I., & Skovdal, M. (2021). “I just want some clear answers”: Challenges and tactics adopted by migrants in Denmark when accessing health risk information about COVID-19. *International Journal of Environmental Research and Public Health*, 18(17), 8932. <https://doi.org/10.3390/ijerph18178932>
- Castles, S. (2010). Understanding global migration: A social transformation perspective. *Journal of Ethnic and Migration Studies*, 36(10), 1565–1586. <https://doi.org/10.1080/1369183X.2010.489381>
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.

- Charmaz, K. (2009). *A construção da teoria fundamentada: Guia prático para análise qualitativa*. Artmed.
- Ciência-UCP, Universidade Católica Portuguesa. (2024–present). *Connection and well-being: the importance of social contexts for members of transnational families* [Research project]. <https://ciencia.ucp.pt/pt/projects/connection-and-well-being-the-importance-of-social-contexts-for-m>
- Correia, D., & Watkins, M. (2023). Exploring experiences of proculturation in international students during the COVID-19 pandemic. *Culture & Psychology*, 29(2), 320–335. <https://doi.org/10.1177/1354067X231156591>
- de Haas, H. (2010). Migration transitions: A theoretical and empirical inquiry into the developmental drivers of international migration (IMI Working Paper No. 24; DEMIG project paper No. 1). *International Migration Institute, University of Oxford*.
- Dekker, R., & Engbersen, G. (2014). How social media transform migrant networks and facilitate migration. *Global Networks*, 14(4), 401–418. <https://doi.org/10.1111/glob.12040>.
- Dekker, R., Engbersen, G., & Faber, M. (2015). The use of online media in migration networks. *Population, Space and Place*, 22(6), 539–551. <https://doi.org/10.1002/psp.1938>
- DiPaola, D., & Calo, R. (2023). Socio-digital vulnerability. *SSRN*. <https://doi.org/10.2139/ssrn.4686874>
- Esteves, A., & Rauhut, D. (2024). Does migration improve the quality of life? The case of Swedish immigrants residing in Portugal. *Population, Space and Place*, 30(4). <https://doi.org/10.1002/psp.2746>
- European Commission. (2023). Comunicação da Comissão: Orientações sobre o direito de livre circulação dos cidadãos da UE e suas famílias. *Official Journal of the European Union*, C 1392, 22 December 2023. Retrieved from <http://data.europa.eu/eli/C/2023/1392/oj>
- European Union. (2016). *Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union* (OJ C 202, 7.6.2016, pp. 1–388). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:12016ME/TXT>

- Ferreira, S. A. R. (2023). *A intervenção social com a população imigrante: Promoção do acesso aos cuidados de saúde* [Master's thesis, Universidade Lusíada]. Repositório da Universidade Lusíada. <http://hdl.handle.net/11067/6804>
- Flanagin, A. J., & Metzger, M. J. (2007). The role of site features, user attributes, and information verification behaviors on the perceived credibility of web-based information. *New Media & Society*, 9(2), 319–342. <https://doi.org/10.1177/1461444807075015>
- Fogg, B. J. (2003). *Persuasive technology: Using computers to change what we think and do*. Morgan Kaufmann.
- Fung, K. K., Lai, C. Y., Hung, S. L., Yu, Y., & He, L. (2025). A systematic review of the digital divide experienced by migrant women. *Journal of International Migration and Integration*. <https://doi.org/10.1007/s12134-024-01222-0> https://doi.org/10.1007/978-3-319-92034-4_4
- Ganito, C. (2018). Gendering old age: The role of mobile phones in the experience of aging for women. In *Human Aspects of IT for the Aged Population* (pp. 40–51). Springer. https://doi.org/10.1007/978-3-319-92034-4_4
- Garcés-Mascareñas, B., & Penninx, R. (Eds.). (2016). *Integration processes and policies in Europe: Contexts, levels and actors* (IMISCOE Research Series). Springer. <https://doi.org/10.1007/978-3-319-21674-4>
- Goodall, K. T., Newman, L. A., & Ward, P. R. (2014). Improving access to health information for older migrants by using grounded theory and social network analysis to understand their information behaviour and digital technology use. *European Journal of Cancer Care*, 23(6), 728–738. <https://doi.org/10.1111/ecc.12241>
- Grau, A. J., & Ramírez López, F. (2017). Determinants of immigration in Europe: The relevance of life expectancy and environmental sustainability. *Sustainability*, 9(7), 1093. <https://doi.org/10.3390/su9071093>
- Guerra, I. C. (2006). *Pesquisa qualitativa e análise de conteúdo: Sentidos e formas de uso*. Princípia Editora.
- Hamel, J.-Y. (2009). *Information and communication technologies and migration* (Human Development Research Paper No. 2009/39). United Nations Development Programme, Human Development Report Office. <https://hdr.undp.org/system/files/documents/hdrp-2009-39.pdf>

- Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Communication & Society*, 8(2), 125–147.
<https://doi.org/10.1080/13691180500146185>
- Instituto Nacional de Estatística (INE). (2023). *Inquérito à utilização de tecnologias da informação e da comunicação pelas famílias – 2023*. Retrieved from <http://www.ine.pt>
- Jinia, N. J., Yilmaz, F., Peltola, J., Hillgren, E., & Pambukhchyan, R. (2021). Networking towards a more sustainable working life for immigrants.
- Komito, L. (2011). Social media and migration: Virtual community 2.0. *Journal of the American Society for Information Science and Technology*, 62(6), 1075–1086.
<https://doi.org/10.1002/asi.21517>
- Komito, L., & Bates, J. (2011). Migrants' information practices and use of social media in Ireland: Networks and community. *iConference 2011, February 8-11, 2011, Seattle, WA, USA*. ACM. <https://doi.org/10.1145/1940761.1940801>
- Kraemer, R., & Katz, M. D. (Eds.). (2009). *Short-range wireless communications: Emerging technologies and applications*. John Wiley & Sons, Ltd.
<https://doi.org/10.1002/9780470740125>
- Laanpere, M., Tammsaar, K., & Sousa, S. (2011). A case study on using social media for e-participation: Design of Initiative Mapper web service. *ICEGOV2011 Proceedings*, September 26–28, 2011, Tallinn, Estonia. ACM.
<https://doi.org/10.1145/2072069.2072120>
- Madenoglu, D. N. (2022). Establishing a Digital Belonging: A Study on the Turkish Diaspora's Use of Facebook. *Diaspora Studies*, 15(3), 229-251.
<https://doi.org/10.1163/09763457-tat00002>
- Malafaia, Carla, Maria Fernandes-Jesus, Norberto Ribeiro, Tiago Neves, Joaquim Luís Coimbra, and Isabel Menezes. "Civic and political e-participation of young immigrants: 'Digital hope' for inclusion?." *International Journal of E-Politics (IJEP)* 4, no. 1 (2013): 32-49.
- Marino, S. (2015). Making space, making place: Digital togetherness and the redefinition of migrant identities online. *Social Media + Society*, 1(2), 1–9.
<https://doi.org/10.1177/2056305115622479>
- Mateia, E. K. (2018). O Impacto das novas tecnologias de informação e comunicação na família contemporânea: Um estudo sobre as «relações entre pais e filhos». [Master's dissertation, Universidade do Porto]. Repositório Aberto da

- Universidade do Porto. <https://repositorio-aberto.up.pt/handle/10216/117349>.
- Matusitz, J., & Musambira, G. (2013). Power distance, uncertainty avoidance, and technology. *Journal of Technology in Human Services, 31*(1), 42–60. <https://doi.org/10.1080/15228835.2012.738561>
- Mendoza Pérez, K., & Morgade Salgado, M. (2019). Mobility and the mobile: A study of adolescent migrants and their use of the mobile phone. *Mobile Media & Communication, 7*(1), 1–20. <https://doi.org/10.1177/2050157918824626>
- Metzger, M. J., Flanagin, A. J., & Zwarun, L. (2003). College student Web use, perceptions of information credibility, and verification behavior. *Computers & Education, 41*(3), 271–290. [https://doi.org/10.1016/S0360-1315\(03\)00049-6](https://doi.org/10.1016/S0360-1315(03)00049-6)
- Monteiro, A. P. T. A. V., & Serra, A. V. (2011). Vulnerability to stress in migratory contexts: A study with Eastern European immigrants residing in Portugal. *Journal of Immigrant and Minority Health, 13*(4), 690–696. <https://doi.org/10.1007/s10903-011-9451-z>
- Moyce, S. C., & Schenker, M. (2018). Migrant workers and their occupational health and safety. *Annual Review of Public Health, 39*, 351–365. <https://doi.org/10.1146/annurev-publhealth-040617-013714>
- Nedelcu, M. (2012). Migrants' new transnational habitus: Rethinking migration through a cosmopolitan lens in the digital age. *Journal of Ethnic and Migration Studies, 38*(9), 1339–1356. <https://doi.org/10.1080/1369183X.2012.698203>
- Notley, T., Karanfil, G., & Aziz, A. (2024). The smart TV in low-income migrant households: Enabling digital inclusion through social and cultural media participation. *Media, Culture & Society, 46*(8), 1638–1656. <https://doi.org/10.1177/01634437241264489>
- Obi, C., Bartolini, F., Brunori, G., & D’Haese, M. (2020). How does international migration impact on rural areas in developing countries? A systematic review. *Journal of Rural Studies, 78*. <https://doi.org/10.1016/j.jrurstud.2020.09.016>
- Park, S., & Gerrits, L. (2021). How migrants manifest their transnational identity through online social networks: Comparative findings from a case of Koreans in Germany. *Comparative Migration Studies, 9*(10). <https://doi.org/10.1186/s40878-020-00218-w>
- Ponzanesi, S. (2021). Somali diaspora and digital belonging: Introduction. *Journal of Global Diaspora & Media, 2*(1), 3–15. https://doi.org/10.1386/gdm_00010_2

- Ratner, C. (2002). Subjectivity and objectivity in qualitative methodology. *Forum Qualitative Social Research*, 3(3). <https://doi.org/10.17169/fqs-3.3.829>
- Rauhut, D. (2021). Heading for a ‘better life’? Why Swedes move to Portugal. *Nordic Journal of Migration Research*, 11(3). <https://doi.org/10.33134/njmr.441>
- Spencer, S., & Charsley, K. (2021). Reframing ‘integration’: Acknowledging and addressing five core critiques. *Comparative Migration Studies*, 9, 18. <https://doi.org/10.1186/s40878-021-00226-4>
- Tsatsou, P. (2021). Vulnerable people’s digital inclusion: Intersectionality patterns and associated lessons. *Information, Communication & Society*. <https://doi.org/10.1080/1369118X.2021.1873402>
- Valsdóttir, S. K., & Lubbers, M. J. (2023). Belonging here and there: How social media affect the transnational lives of Spaniards in Iceland. *New Media & Society*, 0(0). <https://doi.org/10.1177/14614448231185595>
- Van Dijk, J. A. G. M. (2005). *The deepening divide: Inequality in the information society*. Sage. <https://doi.org/10.4135/9781452229812>
- Warschauer, M. (2003). Dissecting the “digital divide”: A case study in Egypt. *The Information Society*, 19(4), 297–304. <https://doi.org/10.1080/01972240309490>
- Wellman, B. (2001). Computer networks as social networks. *Science*, 293(5537), 2031–2034. <https://doi.org/10.1126/science.293.5537.2031>
- Zysset, A., & Dratva, J. (2020). Digital maternal health booklets – Do they help reaching migrant populations? *European Journal of Public Health*, 30, v108. <https://doi.org/10.1093/eurpub/ckaa165.290>

Appendices

Appendix A

Table1

Sociodemographic characteristics (N = 16)

	N	%	M	SD
<i>Gender</i>				
Male	7	43.8		
Female	9	56.3		
<i>Age (M; SD)</i>			38.69	16.58
<i>Marital status</i>				
Single	8	50		
Common-law marriage	2	12.5		
Married	3	18.8		
Widowed	-	-		
Divorced – separated	3	18.8		
<i>Qualifications</i>				
No educational certificate				
Primary/basic education	-	-		
Secondary education	1	6.3		
Vocational training	1	6.3		
Higher education (3 years)	9	56.3		
Higher education (4+ years / Master's degree)	5	31.3		
Doctorate	-	-		
<i>Professional status</i>				
Employee (Working for an employer)	9	56.3		
Independent Contractor	2	12.5		
Student	1	6.3		
Self-Employed	2	12.5		
Working Student	1	6.3		
Retired	1	6.3		
<i>Residence</i>				
Rural	4	25		
Urban	12	75		
<i>Country Of Origin</i>				
Belgium	1	6.3		
France	1	6.3		
Germany	3	18.8		
Italy	8	50		
Lithuania	1	6.3		
Netherlands	1	6.3		
Spain	1	6.3		

Household members (M; SD) 2.06 1.18

Average Monthly Individual Net Income (in euros)

Less than 900€	1	6.3
901€-1500€	7	43.8
1501€-2500€	3	18.8
2501€-3500€	3	18.8
Prefer not to say	2	12.5

Average Monthly Household Net Income

Less than 900€	1	6.3
901€-1500€	2	12.5
1501€-2500€	2	12.5
2501€-3500€	2	12.5
3501€-4500€	4	25
More than 4500€	2	12.5
Prefer not to say	3	18.8

Appendix B

Semi-Structured Interview Guide

Interview Script - Impact of ICT on Immigrant Integration in Portugal		
Thematic blocks	Objectives	Questions - guide
Introduction	1. Briefly outline the study; 2. Emphasize confidentiality and voluntary participation; 3. Present data collection procedures.	
Use of ICT	1. Understand the participant's usage patterns of digital information and communication technologies; 2. Identify the most commonly used devices and platforms.	• Do you have regular internet access? Is it stable? • What devices do you have for personal use? For example, computer, tablet, mobile phone. • How often do you use ICT? If you think about the past few days, on average, how much time? • Which ICT do you use the most? Why? • When you use these platforms, what are the main reasons? • Based on what you've told me, there may be different uses with different purposes. Can you explain why you use each one?

		• Do you use ICT from outside your home country?
Access to information	1. Understand the role of ICT in accessing essential services. 2. Identify challenges faced when accessing health and safety information.	• During your immigration process to Portugal, did you use any of these platforms to search for information about the move? Which online sites did you visit? • If so, how was the process of accessing this information? • When you need information regarding the acquisition of an official document, how do you obtain it (e.g., ask a friend, search online, go to the service, etc.)? • How was your experience searching for information related to healthcare in Portugal? (Information such as how the healthcare system works, costs, etc.) • Do you feel that your online presence allows you to be more informed about your rights and duties in Portugal? • Do you consider the information you have

		found to be reliable? Is it accurate?
Challenges and Vulnerabilities	1. Identify barriers related to the use of ICTs. 2. Explore how sociodemographic factors influence access and use.	• Do you believe that factors such as language, age, or digital literacy impact your experience with ICT in Portugal? • Have you ever faced situations of prejudice/discrimination online? How did you deal with it? • Do you think the ICT available in Portugal meet the needs of the immigrant community? What is missing? • Do ICT help you make better decisions in your daily life, or do they complicate decision-making? • Do you feel that your status as an immigrant makes you more vulnerable to digital problems, such as lack of access or exposure to fraud? If so, can you give examples? • In emergency situations, do you feel that ICT in Portugal are efficient in

		providing the information you need?
Integration and Inclusion	1. Analyze how ICT contributes to social inclusion and civic participation. 2. Explore the creation of local and transnational ties.	• Who do you talk to through the ICT you mentioned? • How do ICT help you connect with your culture of origin? And with Portuguese culture? • Are you part of online communities or groups? What attracts you to these groups (e.g., interests, nationality)? • Did you use ICT to learn about Portuguese culture (e.g., gastronomy, religion, festivals) when you decided to move? • Has using ICT prevented you from meeting people outside the internet? If so, can you tell me about these people? What is their nationality? • Do you participate in activities or cultural events organized by online communities? What are these experiences like? Can you describe an event that was particularly meaningful to you?

		• Have you ever felt that using ICT helped you cope with feelings of exclusion or isolation?
Identity and sense of belonging	1. Explore the impact of ICT on cultural identity and belonging. 2. Identify cultural maintenance and adaptation practices.	• Does access to ICT help you maintain cultural traditions from your country of origin? If so, how? • Can you share an example of how you keep your culture of origin active while living in Portugal? • Do you consider Portugal as your country, a second country, or do you feel like you don't belong? • What role do ICT play in maintaining ties with family or friends in your country of origin?
Final Remarks	1. Check if the participant has anything to add to what has already been discussed.	• Overall, how do you feel that ICT have shaped your experience in Portugal? • Since you moved here, do you feel that you have changed? In what way? • Is there anything else you would like to share that we haven't discussed?

Appendix C

Informed Consent

The study for which we request your collaboration is part of the research developed as part of my Master's dissertation, supervised by Professor Carlos Barros, for the completion of my Master's degree in Psychology in Business and Economics, at the Faculdade de Ciências Humanas, of the Universidade Católica Portuguesa.

This project aims to understand the impact of ICT by European Union immigrants in Portugal, highlighting its role in promoting social inclusion and integration.

Your participation in this study involves completing a sociodemographic questionnaire and participating in an interview. You may decide to withdraw from participation or not answer any question at any time, without any consequences.

For proper data analysis, audio of the interview will be recorded, and all data will be treated with the utmost confidentiality and protected through encryption and anonymization techniques.

The study leader and, if applicable, any collaborators involved in the transcription will have access to the recordings and research. The recording will be destroyed once transcribed, within a maximum period of two (2) years. Your identity will never be revealed, and the study results will be presented only as aggregated data without identifying individual participants.

The collected data will be stored in a confidential research data repository registered with R3DATA. You will always have the right to manage access, allowing for rectification or cancellation at the participant's request.

For more information or if you have any questions, please contact the lead researcher at: s-mmescruz@ucp.pt.

Learn more about your rights under the GDPR here: https://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=2961&tabela=leis.