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*Academic Editors*  
Aija Lulle (University of Eastern Finland)  
Ieva Puzo (Riga Stradins University)

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# Mobility and Relations in Digitally Saturated Social Worlds

Aija Lulle <sup>1,2</sup>  and Ieva Puzo <sup>2</sup> 

<sup>1</sup> Department of Geographical and Historical Studies, University of Eastern Finland, Finland

<sup>2</sup> Faculty of Social Sciences, Riga Stradins University, Latvia

**Correspondence:** Aija Lulle ([aija.lulle@uef.fi](mailto:aija.lulle@uef.fi))

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## Abstract

Social relationships are among the primary means through which people move, belong, and make meaning of the world. The current historical moment of intensified digital infrastructures, platform economies, and evolving artificial intelligence requires renewed conceptual attention to the relationship between mobility and social ties. This thematic issue examines how digitally saturated social worlds reconfigure the conditions under which relationships evolve. Bringing together studies of students, refugees, highly skilled migrants, young men, middle-aged professionals, diasporic families, teleworkers, healthcare workers, and transnational children, it shows that digital connection is not synonymous with social inclusion. Connectivity may sustain care across distance, enable work and learning, assist language navigation, and generate fleeting solidarities. It may also intensify surveillance, precarity, gendered expectations, professional devaluation, and emotional exhaustion. We argue that social ties in digitally saturated worlds must be understood as relational, infrastructural, and mobile: They stretch across borders, platforms, bodies, institutions, and places, while remaining unevenly shaped by intersections of class, age, gender, race, language, migration status, and digital competence. The thematic issue advances an agenda for researching digital relationality, foregrounding the lived complexity in which platforms and AI mediate mobility, intimacy, care, work, and social inclusion.

## Keywords

artificial intelligence; digital devices; digital relationality; encounters; micro-relational infrastructures; migration; mobility; social relations; social worlds; wearables

## 1. Introduction

This thematic issue begins from the proposition that social ties remain crucial to mobility, inclusion, and everyday life, but that their forms, intensities, and effects are changing. In migration studies, social ties have

long been approached as resources: They help people access jobs, housing, information, emotional support, and routes into unfamiliar institutional environments (Ryan, 2011). The digitally saturated world complicates this vocabulary. Today, we encounter platformed, algorithmically activated, datafied ties, as well as proxy- and AI-assisted ties. Some relationships thicken through daily digital presence while others become transactional, more extractive, or easier to abandon.

Undeniably, platforms shape sociality. WhatsApp, WeChat, Telegram, Facebook groups, Instagram, Wolt, Zoom, Teams, wearable devices, digital homework platforms, telemedicine systems, and generative AI interfaces do not organise relationships in the same way. Each has its own rhythms, norms, hierarchies, economies, and many aspects remain inscrutable for a common user of platforms and devices. A WhatsApp family group sustains obligations differently from a professional LinkedIn network; a food delivery app produces a fleeting doorstep encounter differently from a Facebook group for refugees seeking work; a wearable bracelet shared with an elderly relative offers care differently from a video call with a partner across borders. The examination of lived experience clearly shows that we must shift from the language of “digital communication” to the more demanding language of digital relationality. Relationality asks how persons, platforms, data, institutions, bodies, affects, and places become entangled. Digital relationality includes humans and infrastructures involved in waiting for a reply, curating a profile, making meaning of silence, translating language, forwarding a job advertisement, monitoring a parent’s steps, asking ChatGPT to adapt a recipe, avoiding a family call, or choosing not to respond.

Hence, the mobile subject of social science can no longer be understood only as someone who crosses borders, changes residence, or circulates between labour markets. Mobility increasingly takes place through digital networks that allow people to be present in multiple social fields while physically located in one place. Diminescu’s (2008) figure of the “connected migrant” remains central here: Migrants are no longer imagined as cut off from the place of origin, but as continuously reachable, digitally embedded, and relationally stretched across borders. Yet the present moment requires us to revisit this figure critically because connectivity is not the same as care, and access does not necessarily facilitate belonging and inclusion.

The studies in this thematic issue make this distinction visible. Ukrainian students in Slovakia use digital networks to maintain family ties, search for work, and enter academic and social life (Chrancokova & Mitková, 2026). Syrian professionals in Germany rebuild interrupted networks through digital groups, but these fragile ties often fail to restore professional status or secure stable employment (Sabouni, 2026). Latvian junior academics abroad sustain intimacy and family relations through digital media, while also using digital tools to manage distance, autonomy, and unwanted obligations (Cara & Puzo, 2026). These cases show that digital connectivity may support mobility, but it may also defer local belonging, sustain unequal dependencies, or intensify the burden of being socially available across several worlds at once.

## 2. Digitally Mediated Care

Digital saturation reorganises practical, emotional, and relational labour. Care now circulates through video calls, reminders, health data, translation apps, shared documents, platform notifications, voice notes, emojis, location sharing, and AI-generated advice. The concept of midlife digital care work, developed in this issue, is especially valuable because it foregrounds the life-course specificity of digitally mediated relational labour. Middle-aged migrants may be caring simultaneously for partners, children, ageing parents, friends, colleagues,

and professional networks across borders. Yet, digital infrastructures cannot fully substitute for co-presence, touch, shared domestic time, or embodied being-together (Lulle & Lāma, 2026).

Awareness of the fundamental value of co-presence “in the flesh” is a corrective to technologically optimistic accounts of digital proximity “in a flash.” A video call can sustain a marriage, but it may also expose its fragility. A wearable bracelet can reassure an adult child about an elderly parent, but it may also translate care into monitoring. A message can offer comfort, but it can also become one more demand in an already saturated day. A digital family group may generate intimacy, but it may also keep gendered expectations of availability alive across distance (Grivina, 2026). The research challenge is to attend to care as a complexly evolving, digitally mediated labour, where digital infrastructure becomes increasingly inseparable from daily family encounters to health and welfare decisions. Some of the pertinent questions across several articles in this thematic issue are: Who is expected to maintain the tie? Who translates digital information into practical help? Who becomes exhausted by the obligation to remain reachable?

Digital relations are often celebrated because they appear to flatten distance. Yet many digitally mediated relationships are profoundly asymmetrical. The case of Chinese children in UK boarding schools is exemplary. Here, digital communication sustains transnational family intimacy, but it also extends parental authority across borders (Szinay-Kis, 2026). WeChat calls, homework platforms, guardians, and education consultants produce what can be understood as a digitally mediated form of parenting through proxy. Care and control become difficult to separate. The child is both distant and continuously reachable; the parent is absent yet infrastructurally present.

A broader field of inquiry into digitally mediated authority emerges throughout this thematic issue. In families, platforms may allow parents, partners, or relatives to remain present in the everyday lives of those who are elsewhere. In workplaces, remote management systems may sustain collaboration while intensifying monitoring. In migration regimes, digital portals may promise efficiency while making applicants dependent on opaque bureaucratic infrastructures. In health care, telemedicine may expand access while shifting responsibility onto patients and families. In education, digital systems may enable contact while multiplying forms of assessment, comparison, and control. We therefore enrich the studies of social relationships in digitally saturated worlds by examining how power travels through intimacy, and how intimacy becomes infrastructural (e.g., Cara & Puzo, 2026; Lulle & Lāma, 2026; Szinay-Kis, 2026).

### 3. Inequality

All the above avenues are entangled in inequality. Digital inclusion discourse has often assumed that access to devices and basic skills will lead to empowerment. The study of Chinese youth and digital competencies challenges this assumption. It suggests that basic digital skills alone may not improve perceived future mobility. Instead, advanced skills matter far more and have profound implications for new hierarchies in digital capacity, confidence, literacy, visibility, and strategic competence (Liu et al., 2026).

Inequality calls for a more differentiated account of the digital divide. The relevant questions are not merely whether people have access, but what kinds of access they have; what they can do with it; how platforms classify them; whether their language, accent, credentials, nationality, gender, age, disability, or race affects their digital visibility; and whether AI systems recognise their needs. A migrant may have a smartphone but no

trusted local network. A young person may use social media fluently but lack advanced digital competencies valued by employers. A professional refugee may join many online groups yet remain unable to convert digital contacts into meaningful employment. A middle-aged migrant may be digitally competent but emotionally depleted by constant transnational care. Digital inequality is thus relational, affective, and infrastructural, not only technical.

Inequality, in particular, concerns work and the reorganisation of professional ties. Platform work, academic mobility, healthcare migration, and professional networking all show that work-related relationships are increasingly digitally mediated (Jirgensons, 2026; Sharifi, 2026). Remote work has expanded access to transnational labour markets, but it has also blurred boundaries between work and home, increased isolation, and created new forms of precarious dependence on digital infrastructures. For middling migrants, telework can become both a bridge and a trap: It allows them to remain professionally connected across borders, yet may also weaken local embeddedness, obscure labour rights, and intensify competition (Ramos & Gonçalves, 2026).

The case of healthcare practitioner outmigration in Latvia introduces another dimension: digital technologies such as telemedicine are often proposed as solutions to labour shortages and uneven access to care. Yet such technological responses must be examined critically. Telemedicine cannot by itself resolve structural problems of wages, working conditions, professional recognition, and state responsibility (Jirgensons, 2026). Similarly, digital recruitment platforms cannot solve the precarity of mobile academics; AI-assisted job searches cannot compensate for non-recognition of refugee qualifications; online professional groups, or, bluntly, technological solutionism, cannot replace fair labour markets.

#### 4. A Note on Methodological Pluralism and Ethics

Researching social relationships in digitally saturated worlds demands methodological pluralism and conceptual inventiveness. Conventional interviews remain valuable, but interviews alone may not capture the rhythms, interfaces, and micro-practices through which digital ties are lived. We need methods capable of following relationships and discerning potential harms of discrimination across platforms, devices, places, e.g., recruitment practices (cf. Chen, 2023).

Digital ethnography is essential, but it must be combined with situated, embodied, and relational methods. Digital diaries can capture the temporal rhythms of contact, silence, and fatigue (e.g., Grivina, 2026). Network mapping can help visualise strong, weak, dormant, and institutional ties. Mobile methods can follow movement between homes, workplaces, shops, schools, food delivery, and digital interfaces. Platform walk-throughs can reveal how participants navigate apps, groups, settings, and notifications. (e.g., Sharifi, 2026). Comparative ethnography can show how similar infrastructures operate differently across national, linguistic, and welfare contexts. Mixed methods, including surveys and qualitative interviews, can link patterns of digital skill, mobility aspiration, and social inclusion to lived experience.

Digitally saturated relationships are ethically dense. A screenshot or conversations may contain other people's words, images, names, vulnerabilities, and expectations of privacy. A group chat is a social world with its own norms of trust and expectations of privacy and a safe space for sharing sensitive experiences. AI-generated content may be useful to participants, but it also raises questions about authorship, accuracy,



bias, and dependency. Research ethics must therefore move beyond procedural consent towards ongoing care, constant built-in ethical reflexivity, contextual integrity, and participant agency—issues that are diversely illuminated in all the articles of this thematic issue.

## 5. AI as an Emerging Relational Actor

AI is often discussed as a tool, but in everyday life, it increasingly appears as a “friend,” adviser, translator, coach, companion, bureaucratic assistant, and decision-support system. For migrants, AI may help translate documents, prepare job applications, communicate with institutions, learn languages, navigate health information, or manage everyday uncertainty (Hoffmann & Meckl, 2026; Ramos & Gonçalves, 2026). For families, AI may become part of care routines. For students and professionals, it may mediate learning, productivity, and self-presentation (e.g., Chrancokova & Mitková, 2026). For people navigating unfamiliar societies, AI can lower barriers, but it can also misrecognise cultural nuance, reproduce bias, generate false confidence, or intensify dependence on opaque systems (e.g., Sabouni, 2026).

Robotic reverberations on *whether* AI (or, decades ago, robots and machines) will replace human relationships are not new. More important is *how* AI enters relational fields already shaped by inequality, mobility, care, and institutional complexity. When migrants ask AI technology for a healthier version of a familiar dish, they are not merely using technology; they are simultaneously negotiating masculinity, affordability, and cultural continuity (Sharifi, 2026). When a professional migrant uses AI to craft a job application, they are navigating labour-market norms, language hierarchies, and credential recognition. When a person uses AI to translate an emotionally sensitive message to a parent, partner, or bureaucrat, AI becomes part of the affective infrastructure of communication. Future research must therefore expand understanding of AI as relational mediation.

For social inclusion research, this has profound implications. Inclusion cannot be measured only by access to platforms, frequency of contact, or number of connections. A person can be hyperconnected and feel isolated. A migrant can participate in multiple digital groups and still lack meaningful local belonging. A family can share health data and still fail to provide embodied care. Inclusion must therefore be understood relationally, where digital connections are embedded in everydayness and can both support and complicate social relations.

## 6. Conclusion

With this thematic issue, we invite researchers to rethink what constitutes meaningful social relations today. More digital connections do not necessarily mean better social connections. In digitally saturated worlds, disconnection, boundary-making, and selective withdrawal may be necessary practices of autonomy and care. The politics of digital relationality must therefore include the right to connection and the right to opacity, silence, and rest.

The broader contribution of this thematic issue is to bring mobility and migration research, care theory, social inclusion scholarship, and emerging debates on digital societies and AI into closer conversation. It shows that social relationships in digitally saturated worlds are produced at the intersection of intimate life and infrastructural power. They are shaped by family obligations, labour markets, platforms, states, algorithms, languages, visas, schools, health systems, devices, and imaginaries of the good life. To study them well, we



must follow relations as they unfold in daily lives: from the doorstep encounter to the transnational family, from the group chat to the labour market, or from the wearable device to the welfare state.

To move forward, empirically, we need finely grained studies of how people actually use digital infrastructures in the everyday (un)making of relationships. Theoretically, we need concepts that do not flatten digital life or arbitrarily separate it from real life. Terms such as platformed foodways, midlife digital care work, parenting through proxy, digital bridges, fragile ties, connected migrants, and digital investment in language learning point towards such a vocabulary. They allow us to see that the digital is not somewhere out there. It is in the kitchen, the bedroom, the classroom, the workplace, the migration office, the care routine, the family quarrel, the job search, the lonely evening, and the AI-assisted message.

To research social relationships now is therefore to research a world in motion, digitally and physically. It is to examine the ordinary infrastructures and to recognise that the digitally saturated world is growing more relationally complex. We need critical research that is attentive to small gestures and structural conditions, to intimacy and political economy, where platforms and AI encounters are part of making meaning of social relationships, which are evolving, as we speak.

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## About the Authors



**Aija Lulle** is an associate professor at the University of Eastern Finland and a guest associate professor at Rīga Stradiņš University. Her research spans migration, gender, life course, ageing, care, and feminist geography.



**Ieva Puzo** is lead researcher in social anthropology at the Faculty of Social Sciences, Riga Stradins University, Latvia. Her research interests lie at the intersection of science and technology studies, mobility, and labour.

# Toward a Nuanced Understanding of Digital Skills and Perceived Social Mobility: An Exploratory Study Among Chinese Youth

Hao Liu <sup>1</sup> , Chun Liu <sup>1</sup> , and Puxin Zhang <sup>2</sup>

<sup>1</sup> School of Public Administration, University of Electronic Science and Technology of China, China

<sup>2</sup> Research Institute of Public Administration, Sichuan Academy of Social Sciences, China

**Correspondence:** Chun Liu ([chunliu@uestc.edu.cn](mailto:chunliu@uestc.edu.cn))

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## Abstract

It is generally believed that the acquisition of digital skills is associated positively with socioeconomic empowerment. Policies and programs have been implemented to equip young people with skills in various digital technologies. However, the association between different types of digital skills and young people's socioeconomic outlook is unclear. Drawing on data from a nationally representative survey conducted in China, this article reveals that overall digital skill level (DSL) and basic digital skills are not significantly associated with young adults' perceived future mobility (PFM). Rather, the mastery of advanced digital skills is what matters. Individuals with only basic digital skills tend to exhibit more pessimistic expectations about their future mobility than those who possess both basic and advanced skills. In particular, the association between DSL and PFM varies across different levels of socioeconomic status (SES), suggesting that DSL correlates more strongly with perceived mobility for youth with lower SES than it does for their wealthier peers. This study suggests the existence of a digital skills underclass among young people, a relatively small yet significant group at risk of being left behind. The findings offer new perspectives for policymakers seeking to promote inclusive and sustainable youth development in the digital age.

## Keywords

China; digital divide; digital skills; perceived future mobility; young adults

## 1. Introduction

With the development of ICTs, governments and nongovernmental organizations have proactively promoted digital upskilling programs (e.g., ITU, 2020; OECD, 2019; UNESCO, 2018; Vuorikari et al., 2022). Digital skills

are considered critical to the success of young people, underpinning scholarly performance, easing transitions into the workforce, and fostering active participation in democratic processes (e.g., Vuorikari et al., 2022). Policymakers generally assume that equipping the workforce with digital competencies will enable individuals, and particularly disadvantaged individuals, to secure better-paid employment and achieve greater social mobility.

On the one hand, empirical studies have shown that digital skills are associated with improved economic returns (Falck et al., 2021) and upward income mobility (Wang, 2025). On the other hand, this optimistic assumption does not seem to apply to young people. Despite widespread access to digital technologies, some studies have reported that younger generations are not uniformly equipped for their technology-rich future, which means that various forms of digital divides persist and correlate strongly with the digital futures of younger generations (Iivari et al., 2020).

In addition, a few studies have argued that the types of digital skills matter. For example, a recent work indicated that unequal digital skill acquisition may relate to deeper forms of preexisting social exclusion (e.g., health inequalities and the income gap) among young adults (C. Qin et al., 2024). Au (2024) reported that digital technologies tend to benefit already privileged groups while leaving disadvantaged groups further behind when they do not have advanced skills, such as information management skills, and who therefore experience a greater degree of objective socioeconomic deprivation. By distinguishing between types of digital skills and examining the moderating role of socioeconomic status (SES), this article aims to explore whether upskilling policies act as a genuine ladder for everyone, especially vulnerable people.

In the Chinese context, national programs such as “Broadband China” and “Digital China” have made it much easier for people to access the internet (C. Liu, 2012; C. Liu & Wang, 2021; Xia, 2010, 2022). According to the latest statistical report in China, young people account for nearly half of the Chinese internet user population of 1.123 billion (CNNIC, 2025). This massive digital expansion provides a unique contextual setting when compared to other regions. Unlike young adults in many Western countries, who often report relatively low mobility expectations, Chinese youth have traditionally shown high optimism regarding their future socioeconomic trajectories (Whyte, 2010). However, this unique intersection of widespread digital access and personal aspirations clashes increasingly with rigid offline social stratification. In reality, young Chinese people today face a highly competitive labor market and unequal educational resources (Mok & Wu, 2016). As noted by van Deursen and van Dijk (2014), widespread access without strategic skills often fails to correlate with capital-enhancing benefits. For Chinese youth, the following question remains: To what extent can digital skills enhancement be translated into real-world outcomes?

Despite the growing literature on socio-digital stratification, a research gap remains. Most studies treat digital skills as a uniform generic tool and focus primarily on objective socioeconomic outcomes. Few studies have investigated how specific dimensions of digital skills operate within the broader socio-digital stratification process to shape subjective social mobility expectations. This article addresses this gap by offering an incremental empirical contribution to the research.

## 2. Literature Review

### 2.1. Definitions and Determinants of Social Mobility

Social mobility can be defined in two ways: objective social mobility and subjective social mobility. Objective social mobility refers to horizontal changes in objective conditions, including an individual's occupation, education, and economic status (Anderson, 2018; Bian, 2002; Tiffin et al., 2005; Tooth & Mishra, 2013). Subjective social mobility refers to an individual's perception of their opportunities for upward social mobility based on personal initiative and effort (Su et al., 2015). This includes perceived present mobility, perceived future mobility (PFM), and perceived intergenerational mobility (Du et al., 2021; Song, 2024).

At the individual level, researchers have explored how parental SES, gender, *hukou* classification (in China), and the expansion of higher education relate to perceptions of social mobility (Huang, 2020; Mok & Wu, 2016; Song, 2024). The findings indicate that most respondents, irrespective of prior experiences of upward or downward mobility, tend to perceive an upward trajectory in social mobility. These perceptions align consistently with various individual-level sociodemographic factors and broader societal and economic conditions, including economic growth, low unemployment rates, and GDP performance, alongside *hukou* reforms (C. Chen & Qin, 2014; Du et al., 2021; Gugushvili & Zelinska, 2023; Huang, 2020). However, some scholars adopt a more critical stance and contend that the expansion of higher education in China exhibits a weakened association with perceived upward social mobility and that family background demonstrates a more robust correlation (Mok & Wu, 2016). Similarly, M. Jackson et al. (2005) concluded that educational attainment, both in terms of its level and the institution attended, weakens the direct link between digital skills and social mobility. Recent studies suggest that the significance of parental achievements and *hukou* status in predicting upward social mobility in China is gradually declining (C. Chen & Qin, 2014).

### 2.2. Digital Skills and Perceptions of Social Mobility

Over the past two decades, the relationship between digital skills and social stratification/inclusion has been discussed thoroughly. Scholars have considered digital skills not only as useful tools (e.g., communication and entertainment) but also as important forms of cultural and economic capital in societies where digital mediation is common (Merisalo & Makkonen, 2022; Ragnedda & Ruii, 2020; Rodríguez-Camacho et al., 2024; van Laar et al., 2018). Digital skills are considered a type of social capital that is linked closely to life outcomes, aspirations, and future trajectories (Ragnedda, 2018; Ragnedda & Ruii, 2020; Rodríguez-Camacho et al., 2024; Verwiebe & Hagemann, 2025). Digital skills are of greater importance for young adults who are entering an unstable job market, where being good at digital capacities is no longer just a plus but often a requirement for obtaining a good job and moving up in the world (Hargittai, 2010; Vuorikari et al., 2022). Digital skills have emerged as important competencies, particularly for young adults navigating the transition from education to employment and engaging in the digital facets of social life (van Deursen & Helsper, 2015; van Laar et al., 2017, 2018).

Empirical research that investigates the correlation between digital skills and perceptions of social mobility has produced mixed results. One perspective posits that digital skills enhance optimism with respect to advancement. Advocates have asserted that these skills bolster the belief in merit-based advancement by facilitating access to valuable information, expanding networks, and offering new resources (DiMaggio & Bonikowski, 2008; Robinson et al., 2015; van Laar et al., 2018). A contrasting point of view warns that

unequal access and skill levels can make social divides worse. Scholars have observed that this process frequently entails unfavorable comparisons with others online, potentially exacerbating disillusionment regarding one's prospects for success (Helsper, 2021). Research by Hargittai (2010) revealed that individuals who possess only fundamental internet skills frequently perceive the online realm as presenting fewer opportunities. Studies showed that digitally disadvantaged youth from lower socioeconomic backgrounds are more susceptible to algorithmic isolation and information cocoons (Hargittai, 2021; Zuiderveen Borgesius et al., 2016). Other studies have indicated minimal to no effect, which suggests that digital proficiency alone is inadequate to transform entrenched beliefs regarding mobility without the implementation of comprehensive institutional reforms (Hout, 2014; Torche, 2014).

In the Chinese context, the relationship between digital competencies and individuals' perceptions of social mobility warrants further scholarly attention. Over the past two decades, national initiatives such as Broadband China and Digital China have subsidized digital infrastructure heavily, making basic technology widely accessible (C. Liu, 2012; C. Liu & Wang, 2021; Xia, 2010, 2022). According to recent statistical reports, young adults now account for a massive portion of the internet user population in China (CNNIC, 2025). However, this rapid universalization of internet access occurs alongside enduring offline structural challenges, including a highly competitive job market and unequal educational opportunities (Au, 2024).

Although basic connectivity is nearly universal, the capacity to use technology and the tangible benefits derived from it remain stratified. These digital divisions align consistently with established offline inequalities in geography, class, and education (Qiu, 2009). Recent empirical evidence reflects this socio-digital stratification. For example, higher digital literacy levels are associated with better economic outcomes and employment stability in rural areas (Zhou et al., 2024). Similarly, higher levels of digital skills correlate positively with better health outcomes among urban, affluent, and younger populations (C. Qin et al., 2024). However, among rural-to-urban migrant students, G. L. Liu (2025) recently observed offline identity challenges and structural obstacles related strongly to how these youth perceive the empowering potential of digital literacies.

### 3. Theoretical Framework and Hypotheses

Socio-digital stratification theory serves as the theoretical foundation for this study. Different from early views that saw digital adoption as a universal equalizer (Bell, 1973), the socio-digital stratification perspective highlights a bidirectional feedback loop between digital and social inequalities (Helsper, 2012; Ragnedda, 2020). As Helsper (2012) explained through the corresponding fields model, offline social hierarchies (e.g., class or education) dictate individuals' access to and usage of technologies, which reproduce and often amplify preexisting structural disadvantages in the digital realm. This process often reproduces and amplifies existing structural disadvantages in the digital realm (Ragnedda & Ruij, 2020). Within this stratification process, the academic focus has shifted from the first- and second-level digital divides (access and basic usage) to the third-level digital divide (Ragnedda & Ruij, 2017). This divide specifically examines the unequal capacity to translate digital engagement into tangible offline outcomes (Scheerder et al., 2017; van Deursen et al., 2017).

To understand how digital skills operate within this stratification process, the concept of digital capital offers a useful analytical lens (Ragnedda, 2018). Building on Bourdieu's (1986) theory of capital, scholars note that

digital capital has two distinct dimensions. The objectified dimension involves material resources and technological access, whereas the embodied dimension consists of internalized digital dispositions and competencies (Ignatow & Robinson, 2017; Ragnedda & Ruiu, 2020). Therefore, digital skills are not simply technical tools but also serve as the embodied state of digital capital. This embodied capital helps individuals convert online resources into offline socioeconomic benefits, empowering them to obtain the competencies demanded by the modern labor market (Vuorikari et al., 2022), better career prospects, and improved social status (Rodríguez-Camacho et al., 2024). Accordingly, the following hypothesis is proposed:

H1: Digital skills are positively associated with PFM.

However, not all digital skills have the same capital for social advancement, which may obscure the realities of the socio-digital stratification. Users acquire digital skills sequentially, moving from operational abilities to strategic competencies that are more complex (van Dijk & van Deursen, 2014). In the framework of digital capital, the distinguishing value of a resource declines when it becomes universally accessible (Ragnedda, 2017). Because basic digital skills are now ubiquitous among young people, particularly in China (CNNIC, 2025), such skills no longer act as a competitive advantage. Instead, real digital capital is concentrated among users who have advanced skills to control algorithmic rules and verify complex information (Verwiebe & Hagemann, 2025). Possessing these advanced skills allows young adults to accumulate distinct forms of digital capital that yield social prestige and economic returns (van Deursen et al., 2014), which genuinely enhances their mobility expectations. Consequently, a digital underclass (DU) emerges. This group includes individuals who are technically connected but who lack the strategic competencies needed to convert their digital engagement into beneficial outcomes (Ragnedda, 2020). Without effective engagement, these disadvantaged groups struggle to obtain capital returns (Lutz, 2019; Park, 2017). Thus, the following hypotheses are proposed:

H2a: Advanced digital skills are positively associated with PFM, whereas basic digital skills are not significantly related.

H2b: Compared with individuals who possess both basic and advanced digital skills, individuals who possess only basic digital skills exhibit lower PFM.

Existing theories offer competing arguments regarding who benefits the most from digital capital. According to socio-digital stratification processes and the corresponding fields model, offline privileges are frequently amplified in the digital domain (Helsper, 2012). This stratification hypothesis suggests that individuals with a higher SES are better able than others are to extract offline benefits from their digital skills due to their existing structural advantages (Au, 2024; Rodríguez-Camacho et al., 2024). In contrast, the resource substitution hypothesis posits that personal resources are marginally related more strongly with outcomes for individuals who lack structural advantages (Ross & Mirowsky, 2006). From this perspective, embodied digital capital might serve as a crucial alternative pathway for disadvantaged youth to overcome offline barriers. To test these conflicting theoretical narratives within the specific context of Chinese youth, the following competing hypotheses are proposed regarding the moderating role of SES:

H3a: The positive relationship between digital skills and PFM is stronger for young people with a higher SES.



H3b: The positive relationship between digital skills and PFM is stronger for young people with a lower SES.

## 4. Data and Measures

### 4.1. Sample

The data used for this study were derived from the Chinese General Social Survey (CGSS), which was conducted by Renmin University of China. The CGSS is a nationally representative survey that includes respondents from 30 provinces (municipalities and autonomous regions) in China, and it has been widely used in numerous previous studies (e.g., Du et al., 2021; Hao & Ke, 2024; Huhe, 2014; Zhang & Jiang, 2019). The CGSS 2017 data covered 783 variables and a sample of 12582 participants, all aged 18 years and older.

Within this total sample, we identified 4455 young adults, accounting for 35.41% of the respondents. This age category, defined as individuals  $\leq 44$  years old, aligns with the classification of young adults as defined by both the WHO and China's National Bureau of Statistics and is consistent with the categorizations employed in many existing Chinese studies (e.g., C. Liu et al., 2023; G. Qin & Li, 2024; Xiong & Yu, 2024; Zhu et al., 2020). Notably, 4165 of these young adults were internet users, representing a high internet penetration rate of 93.49%. After we dropped cases with missing or invalid variables, our final valid sample consisted of 1317 young adults.

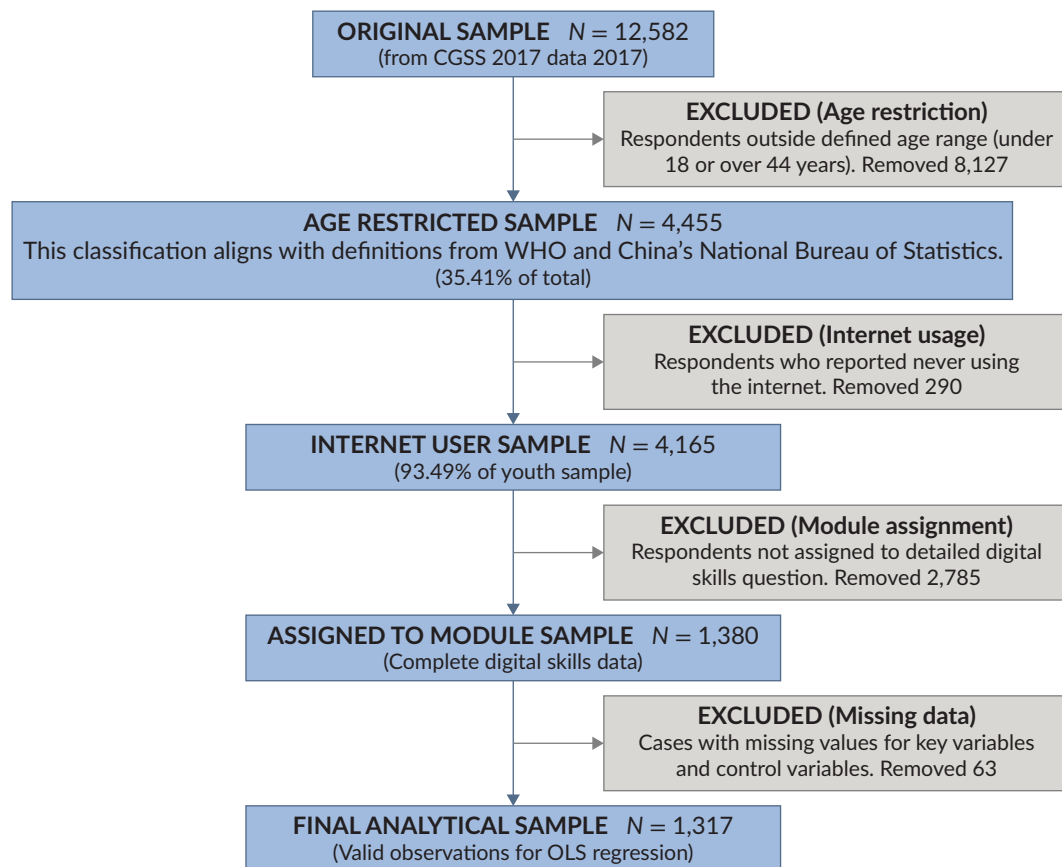
This high internet penetration rate among young adults provides a crucial background. By 2017, basic digital access was nearly universal among Chinese youth. However, this digital expansion occurred alongside rigid offline social stratification (Wu, 2019). Young adults faced a highly competitive labor market and unequal educational resources (Mok & Wu, 2016). Therefore, the CGSS 2017 survey captures a unique transitional period, showing how young adults tried to use new digital skills to overcome real social barriers.

In the final sample, 50.05% of the respondents were female, and 49.95% of the respondents were male. The relatively balanced sex distribution that resembles the proportional ratios typically observed in samples from other studies (e.g., B. Jackson et al., 2007) demonstrates the reliability of the sample. Finally, negative-order variables were recoded as positive-order. The sample selection and attrition flow diagram is shown in Figure 1.

### 4.2. Measures

#### 4.2.1. Dependent Variable

The dependent variable is PFM. The CGSS 2017 employed the MacArthur Scale of Subjective Social Status, which requires participants to indicate their present social standing and predict their status a decade later using a pictorial 10-step ladder, where the bottom (1) and top (10) represent the lowest and highest positions, respectively. The visual scale has been widely utilized and validated in recent social mobility research within the Chinese context (e.g., Du et al., 2021; C. Liu et al., 2023). Following Du et al. (2021), PFM is derived by subtracting the current status ( $SS_1$ ) rating from the estimated score 10 years later ( $SS_2$ ) and thus provides a longitudinal perspective on self-perceived mobility ( $M = 1.391$ ,  $SD = 1.406$ ; Cheng & Wen, 2019).



**Figure 1.** Sample selection and attrition flow diagram.

#### 4.2.2. Independent Variable

In this study, digital skills (henceforth: DS) were assessed using a six-item scale in which the respondents rated their proficiency in the following areas:

1. Opening websites on a computer;
2. Downloading and installing applications on smartphones;
3. Finding information online;
4. Verifying important news shared on social media platforms such as WeChat and microblogging sites before believing it;
5. Knowing how to express personal thoughts in an online setting;
6. Assessing the security of an environment before making online payments or transactions.

Each item was rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

First, the DSL was measured as the average score of the six-item scale, with a higher score indicating a higher level of digital skills ( $M = 4.302$ ,  $SD = 0.741$ ). The Cronbach's alpha was 0.871, which showed satisfactory reliability.

The 5-point scale items across the six digital skill dimensions were subsequently recoded. Ratings from 1 (*strongly disagree*) to 3 (*not sure*) were recoded as 0, indicating the absence of digital skill in the respective skill type, whereas ratings of 4 (*agree*) and 5 (*strongly agree*) were recoded as 1, indicating the possession of the respective digital skills. Following the Bourdieusian digital capital framework (Calderón Gómez, 2020; Ragnedda, 2018), we operationalized digital skills not merely as technical tasks but only as embodied capital. We distinguished these skills based on their capital-enhancing potential within the social structure (Verwiebe & Hagemann, 2025). Accordingly, these six items were then grouped into two distinct dimensions:

1. Basic digital skills (BDS), which includes opening websites on a computer, downloading and installing applications on smartphones, and finding information online.
2. Advanced digital skills (ADS), which includes verifying important news shared on social media platforms such as WeChat and microblogging sites before believing it, expressing personal thoughts in an online setting, and assessing the security of an environment before making online payments or transactions.

This bipartite categorization is further validated by our empirical data. The descriptive statistics reveal a distinct gap in task difficulty where the nonpossession rates for advanced skills (i.e., 14.58%, 16.78%, 19.06%) are notably higher than are those for basic skills (i.e., 8.58%, 9.87%, 10.25%). Additionally, a confirmatory factor analysis supports treating these as two distinct latent constructs with excellent fit indices, including a comparative fit index of 0.978. The internal consistency was satisfactory, with Cronbach's  $\alpha$  values of 0.870 for BDS and 0.764 for ADS.

Next, DS were further operationalized through multiple binary constructs. First, whether basic digital skills were acquired (WBDS) was coded as 1 if the respondents demonstrated skill (i.e., score = 1) in at least one of the BDS items; otherwise, WBDS = 0, indicating a complete absence of basic digital skills ( $M = 0.964$ ,  $SD = 0.187$ ). Similarly, we coded as a binary variable whether advanced digital skills were acquired (WADS): 1 for respondents with any advanced digital skills and 0 for those with no advanced digital skills ( $M = 0.951$ ,  $SD = 0.217$ ). Afterward, whether any digital skills were acquired (WDS) was coded as 0 if both WBDS and WADS were 0; otherwise, it received a code of 1 ( $M = 0.983$ ,  $SD = 0.131$ ).

Finally, the respondents were classified into three distinct categories according to their acquired digital skills: (1) individuals who possessed only basic digital skills (WBDS = 1, WADS = 0), (2) those who possessed both basic and advanced digital skills (WBDS = 1, WADS = 1), and (3) those who reported having only advanced digital skills (WBDS = 0, WADS = 1). Because of the rarity in practice and theoretical inconsistency of possessing advanced skills without foundational knowledge (e.g., van Laar et al., 2019), the third category was excluded. The final classification assigned the respondents with only basic digital skills to the DU, which was coded as 1, and those proficient in both basic and advanced digital skills were coded as 0 ( $M = 0.033$ ,  $SD = 0.179$ ).

#### 4.2.3. Control Variables

Some demographic and socioeconomic variables were selected as control variables to account for potential confounding factors, considering previous studies on social mobility (H. Chen et al., 2018; Cojocaru, 2014; Du et al., 2021; C. Liu et al., 2023); these variables were marital status (unmarried = 0, married = 1;  $M = 0.678$ ,  $SD = 0.467$ ), age ( $M = 31.961$ ,  $SD = 7.384$ ), education (1 = elementary and below, 2 = middle

school, 3 = high school, and 4 = college and above;  $M = 2.994$ ,  $SD = 1.008$ ), gender (female = 0, male = 1;  $M = 0.487$ ,  $SD = 0.500$ ), and hukou (urban = 0, rural = 1;  $M = 0.508$ ,  $SD = 0.500$ ). To assess health status ( $M = 4.007$ ,  $SD = 0.905$ ), the respondents were asked to evaluate their current physical condition on a scale from 1 (*very unhealthy*) to 5 (*very healthy*).

#### 4.2.4. Moderating Variable

Following previous studies (e.g., C. Liu et al., 2023), SES was measured using a 5-point scale, where the participants indicated their perceived placement within society ( $M = 2.310$ ,  $SD = 0.842$ ), ranging from 1 (*lower level*) to 5 (*upper level*). A description of the variables is shown in Table 1.

**Table 1.** Variable description.

| Variable             | N    | Mean   | SD    | Min. | Max. |
|----------------------|------|--------|-------|------|------|
| Dependent variable   |      |        |       |      |      |
| PFM                  | 1317 | 1.391  | 1.406 | −5   | 9    |
| Independent variable |      |        |       |      |      |
| DS                   |      |        |       |      |      |
| DSL                  | 1317 | 4.301  | 0.741 | 1    | 5    |
| WDS                  | 1317 | 0.983  | 0.131 | 0    | 1    |
| WBDS                 | 1317 | 0.964  | 0.187 | 0    | 1    |
| WADS                 | 1317 | 0.951  | 0.217 | 0    | 1    |
| DU                   | 1269 | 0.033  | 0.179 | 0    | 1    |
| Moderating variable  |      |        |       |      |      |
| SES                  | 1317 | 2.311  | 0.842 | 1    | 5    |
| Control variables    |      |        |       |      |      |
| MS                   | 1317 | 0.678  | 0.467 | 0    | 1    |
| Age                  | 1317 | 31.961 | 7.384 | 18   | 44   |
| Education            | 1317 | 2.994  | 1.008 | 1    | 4    |
| Gender               | 1317 | 0.487  | 0.500 | 0    | 1    |
| Hukou                | 1317 | 0.508  | 0.500 | 0    | 1    |
| Health               | 1317 | 4.007  | 0.905 | 1    | 5    |

Notes: SD represents the standard deviation, DSL is the digital skills level, WDS indicates whether any digital skills were acquired, WBDS denotes whether basic digital skills were acquired, WADS signifies whether advanced digital skills were acquired, DU represents that only basic digital skills were acquired, SES is socioeconomic status, and MS is marital status.

## 5. Data Analysis

To explore the link between digital skills and PFM among Chinese young adults, the following empirical models were established:

$$PFM_i = \alpha_0 + \alpha_1 DSL_i + \alpha_2 Controls + \mu_i \quad (1)$$

$$PFM_i = \beta_0 + \beta_1 WDS_i + \beta_2 Controls + \varepsilon_i \quad (2)$$

$$PFM_i = \theta_0 + \theta_1 WBDS_i + \theta_2 WADS + \theta_3 Controls + \kappa_i \quad (3)$$

$$PFM_i = \gamma_0 + \gamma_1 DU_i + \gamma_2 Controls + \eta_i \quad (4)$$

where  $i$  represents individual  $i$ ;  $PFM_i$  indicates the PFM of individual  $i$ ;  $DSL_i$  denotes the digital skills level of individual  $i$ ;  $WDS_i$  signifies whether individual  $i$  acquires any digital skills;  $WBDS_i$  indicates whether individual  $i$  acquires basic digital skills;  $WADS_i$  identifies whether individual  $i$  acquires advanced digital skills;  $DU_i$  points to whether individual  $i$  acquires only basic digital skills;  $Controls_i$  denotes the control variables mentioned above for individual  $i$ ;  $\alpha_0$ ,  $\beta_0$ ,  $\theta_0$  and  $\gamma_0$  symbolize constant terms; and  $\mu_i$ ,  $\varepsilon_i$ ,  $\kappa_i$  and  $\eta_i$  are the random interference terms.

## 6. Results

### 6.1. Baseline Results

Table 2 presents the findings regarding the association between digital skills and PFM among young adults in China. M1 and M2 indicate that neither the DSL nor the WDS is related significantly to young people's PFM. These results fail to support H1. M3 differentiates among the skill types and reveals that the mastery of advanced digital skills is positively correlated with mobility expectations at the 10% significance level, whereas the association with basic digital skills remains statistically insignificant. These findings confirm H2a. M4 indicates that young people who possess only basic digital skills exhibit more pessimistic perceptions about future mobility than those who possess both basic and advanced digital skills do. H2b is therefore supported. The mean variance inflation factors (VIFs) for models 1, 2, 3, and 4 are 1.42, 1.55, 1.55, and 1.53, respectively, indicating that no multicollinearity issues exist across all of the models.

**Table 2.** Baseline results.

| Predict variables  | M1                   | M2                   | M3                   | M4                   |
|--------------------|----------------------|----------------------|----------------------|----------------------|
| DSL                | 0.060<br>(1.00)      |                      |                      |                      |
| WDS (None = 0)     |                      | −0.187<br>(−0.64)    |                      |                      |
| WBDS (None = 0)    |                      |                      | −0.256<br>(−1.15)    |                      |
| WADS (None = 0)    |                      |                      | 0.353*<br>(1.85)     |                      |
| DU                 |                      |                      |                      | −0.507**<br>(−2.34)  |
| SES                | −0.134***<br>(−2.90) | −0.104**<br>(−2.24)  | −0.106**<br>(−2.27)  | −0.110**<br>(−2.32)  |
| MS (Unmarried = 0) | −0.037<br>(−0.36)    | −0.053<br>(−0.52)    | −0.057<br>(−0.56)    | −0.051<br>(−0.50)    |
| Age                | −0.042***<br>(−6.20) | −0.043***<br>(−6.35) | −0.042***<br>(−6.19) | −0.044***<br>(−6.38) |
| Education          | −0.017<br>(−0.35)    | −0.035<br>(−0.72)    | −0.043<br>(−0.87)    | −0.056<br>(−1.13)    |

**Table 2.** (Cont.) Baseline results.

| Predict variables   | M1                 | M2                 | M3                 | M4                 |
|---------------------|--------------------|--------------------|--------------------|--------------------|
| Gender (Female = 0) | 0.112<br>(1.47)    | 0.117<br>(1.55)    | 0.117<br>(1.55)    | 0.090<br>(1.17)    |
| Health              | 0.036<br>(0.83)    | 0.051<br>(1.16)    | 0.049<br>(1.11)    | 0.048<br>(1.07)    |
| Hukou               | −0.144<br>(−1.60)  | −0.104<br>(−1.15)  | 0.104<br>(−1.15)   | −0.117<br>(−1.28)  |
| Constant            | 2.747***<br>(7.14) | 2.841***<br>(6.16) | 2.570***<br>(6.02) | 2.745***<br>(7.34) |
| Observations        | 1317               | 1317               | 1317               | 1269               |
| R <sup>2</sup>      | 0.075              | 0.121              | 0.123              | 0.132              |
| Mean VIF            | 1.42               | 1.55               | 1.55               | 1.53               |

Notes: *t* statistics are in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , and \*\*\*  $p < 0.01$ ; DSL is the digital skills level, WDS indicates whether any digital skills were acquired, WBDS denotes whether basic digital skills were acquired, WADS signifies whether advanced digital skills were acquired, DU represents those only basic digital skills that were acquired, SES is socioeconomic status, MS is marital status.

## 6.2. Robustness Checks

To conduct the robustness checks, following the methodological approach of C. Liu et al. (2023), we respecified the dependent variable as the percentage of maximum possible change. Specifically, an alternative specification of the dependent variable is  $PFM = (SS_2 - SS_1)/(10 - SS_1)$ , if  $SS_2 > SS_1$ , and  $PFM = (SS_2 - SS_1)/SS_1$ , if  $SS_2 < SS_1$ . This dependent variable measures the percentage of the gap that the respondents with the highest (lowest) level of social optimism hope to bridge (expect to increase) in 10 years, both measured from the respondents' current levels. We then reestimated our models. The results of this alternative specification are entirely consistent with our primary analysis (Table 3).

**Table 3.** Robustness checks results.

| Predict variables  | M5                   | M6                   | M7                   | M8                   |
|--------------------|----------------------|----------------------|----------------------|----------------------|
| DSL                | 0.009<br>(0.83)      |                      |                      |                      |
| WDS (None = 0)     |                      | −0.017<br>(−0.31)    |                      |                      |
| WBDS (None = 0)    |                      |                      | −0.048<br>(−1.19)    |                      |
| WADS (None = 0)    |                      |                      | 0.063*<br>(1.81)     |                      |
| DU                 |                      |                      |                      | −0.079**<br>(−1.99)  |
| SES                | 0.026***<br>(3.08)   | 0.027***<br>(3.20)   | 0.026***<br>(3.17)   | 0.027***<br>(3.22)   |
| MS (Unmarried = 0) | −0.013<br>(−0.71)    | −0.012<br>(−0.66)    | −0.013<br>(−0.67)    | −0.010<br>(−0.53)    |
| Age                | −0.007***<br>(−5.51) | −0.007***<br>(−5.82) | −0.007***<br>(−5.72) | −0.007***<br>(−5.87) |

**Table 3.** (Cont.) Robustness checks results.

| Predict variables   | M5                 | M6                 | M7                 | M8                 |
|---------------------|--------------------|--------------------|--------------------|--------------------|
| Education           | 0.004<br>(0.49)    | 0.007<br>(0.81)    | 0.006<br>(0.66)    | 0.004<br>(0.47)    |
| Gender (Female = 0) | 0.015<br>(1.11)    | 0.016<br>(1.19)    | 0.016<br>(1.19)    | 0.013<br>(0.92)    |
| Health              | 0.014*<br>(1.82)   | 0.015*<br>(1.92)   | 0.015*<br>(1.91)   | 0.016**<br>(1.97)  |
| <i>Hukou</i>        | −0.029*<br>(−1.79) | −0.028*<br>(−1.70) | −0.028*<br>(−1.70) | −0.030*<br>(−1.82) |
| Constant            | 0.321***<br>(4.59) | 0.370***<br>(4.91) | 0.342***<br>(5.04) | 0.366***<br>(6.30) |
| Observations        | 1317               | 1317               | 1317               | 1269               |
| $R^2$               | 0.071              | 0.071              | 0.074              | 0.077              |
| Mean VIF            | 1.42               | 1.34               | 1.35               | 1.32               |

Notes:  $t$  statistics are in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , and \*\*\*  $p < 0.01$ ; DSL is the digital skills level, WDS indicates whether any digital skills were acquired, WBDS denotes whether basic digital skills were acquired, WADS signifies whether advanced digital skills were acquired, DU represents those only basic digital skills that were acquired, SES is socioeconomic status, MS is marital status.

### 6.3. Moderating Results

Table 4 displays the results of the moderating analysis. M9 suggests that the interaction between DSL and SES is significantly negative at the 5% significance level. SES is measured as subjective SES, which overlaps conceptually with the dependent variable (perception-based mobility), raising bias concerns. We estimated a conditional change model in M10. This stringent specification removes potential structural bias by regressing the expected absolute SS2 directly on the predictors while strictly controlling for SS1. The results show that the interaction term remains significantly negative. Moreover, Figure 2 visually represents the negative interactive association between SES and DSL regarding PFM. These results confirm H3b, but H3a is not supported.

**Table 4.** Moderating results.

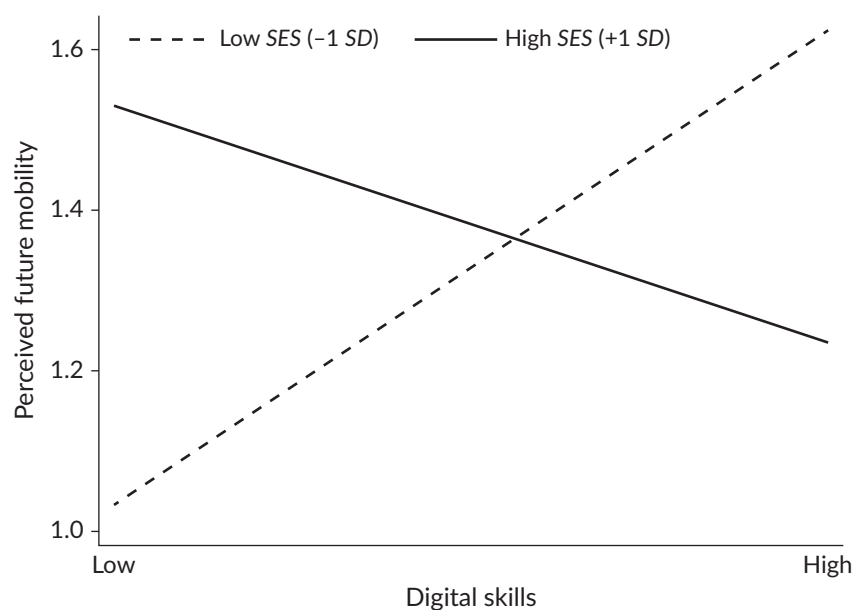
| Predict variables  | M9                   | M10                  |
|--------------------|----------------------|----------------------|
| DSL                | 0.037<br>(0.61)      | 0.043<br>(0.71)      |
| DSL $\times$ SES   | −0.131**<br>(−2.28)  | −0.123**<br>(−2.16)  |
| SS <sub>1</sub>    |                      | 0.847***<br>(27.69)  |
| SES                | −0.139***<br>(−3.00) | 0.037<br>(0.64)      |
| MS (Unmarried = 0) | −0.045<br>(−0.43)    | −0.062<br>(−0.61)    |
| Age                | −0.042***<br>(−6.09) | −0.040***<br>(−5.93) |



**Table 4.** (Cont.) Moderating results.

| Predict variables   | M9                 | M10                |
|---------------------|--------------------|--------------------|
| Education           | −0.020<br>(−0.41)  | 0.010<br>(0.21)    |
| Gender (Female = 0) | 0.105<br>(1.39)    | 0.085<br>(1.13)    |
| Health              | 0.037<br>(0.84)    | 0.052<br>(1.21)    |
| <i>Hukou</i>        | −0.141<br>(−1.57)  | −0.163*<br>(−1.83) |
| Constant            | 2.699***<br>(8.60) | 3.198***<br>(9.79) |
| Observations        | 1,317              | 1,317              |
| $R^2$               | 0.078              | 0.530              |
| Mean VIF            | 1.38               | 1.49               |

Notes:  $t$  statistics are in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , and \*\*\*  $p < 0.01$ ; DSL is the digital skills level, SES is socioeconomic status, MS is marital status,  $SS_1$  indicates current social status.



**Figure 2.** The interactive association between SES and DSL regarding PFM.

## 7. Discussion

This study determines that DSL is not correlated significantly with PFM. These findings challenge the optimistic utopian views of technological determinism theory (Bell, 1973), which generally argue that the mastery of technology can help individuals achieve social development. Examining the third level of the digital divide and the bidirectional feedback between socioeconomic and digital inequalities may help to understand why this purely optimistic approach fails in reality (Helsper, 2021; van Deursen & Helsper, 2015). Real-world social stratification constrains the extent to which individuals can leverage general digital skills for tangible offline benefits (Robinson et al., 2020). Consequently, disadvantaged youth face entrenched

structural barriers that prevent them from converting basic computer skills into actual upward social mobility (Ragnedda & Ruii, 2020). Therefore, this nonsignificant direct association should not be interpreted simply as evidence of the irrelevance of digital skills or the ineffectiveness of digital upskilling programs. Instead, this study reveals a stratified reality in which not all digital skills hold equal value. The benefit of these digital skills depends on their potential for capital conversion (Ragnedda, 2018).

This research further finds a significant negative interaction between SES and DSL regarding PFM. This finding of the negative moderating role of SES challenges Helsper's (2012) corresponding fields model, which posited that offline privileges are amplified in the digital domain, reinforcing the Matthew effect. Instead, this result provides empirical support for the resource substitution hypothesis (Ross & Mirowsky, 2006), suggesting that digital skills can function as crucial compensatory resources for the socially disadvantaged. Although Ragnedda (2017) emphasized that the conversion rates of digital capital are higher among wealthy people, the finding demonstrates that the personal resources of digital skills are associated with PFM positively and more strongly for low-SES youth than they are for their privileged peers. This result is also consistent with that of Wang (2025) who indicated that digital literacy is correlated more strongly with upward income mobility for disadvantaged people.

This study shows that there is no significant relationship between the acquisition of basic digital skills and PFM. This conclusion contradicts earlier research on the digital divide, which posits that basic internet accessibility naturally leads to improved life opportunities (DiMaggio et al., 2004). However, this result aligns with the argument of van Deursen and van Dijk (2014) that states that because operational skills have become relatively common, they no longer confer the same competitive advantage, and the locus of inequality is shifted to how the internet is capital-enhancing or recreationally used. Ragnedda (2017, 2018) noted that both the distinguishing value of a resource and the exchange value as a form of capital decrease as a resource becomes ubiquitous. Therefore, as basic digital skills become relatively widespread (CNNIC, 2025), these skills may no longer constitute a competitive advantage in capital accumulation for enhancing the social status of Chinese youth.

This study also determines that the acquisition of advanced digital skills is associated positively with PFM at a 10% significance level, which is relatively weak but important (Wooldridge, 2016). This result aligns with the theory of the third-level digital divide that emphasizes the disparity in tangible outcomes (van Deursen & Helsper, 2015). Previous research on the digital divide has distinguished internet use into capital-enhancing or noncapital-enhancing uses (van Deursen & van Dijk, 2014). These studies have reported that users with high skills are more likely to use the internet for capital-enhancing activities, while users with low skills tend to use the internet mainly for recreation. Correa (2016) found that high-skill users engage in content creation, whereas low-skill users are limited to passive consumption. Following this logic, this study identified a similar role for basic and advanced digital skills. As Verwiebe and Hagemann (2025) asserted, real digital capital belongs to the people who control the data and engage in creative production rather than the people engaged in prosumption. Thus, advanced skills, including strategic skills, are more beneficial for young people to acquire as true digital capital that can be converted into tangible benefits. The results also confirm Ragnedda's (2017) assertion that only specific high-value digital forms of capital can be effectively exchanged for offline benefits.

This research further identifies the critical finding that there is a disadvantaged group regarding digital skills who are likely to be left behind. This conclusion demonstrates that individuals with only basic digital skills are more pessimistic about their future than individuals with both basic and advanced digital skills are. This result provides empirical evidence that supports and enriches the concept of the DU (Ragnedda, 2020). Individuals with basic digital skills are not disconnected but are adversely embodied (Helsper, 2021). They may invest significant time in the digital world but lack the power to extract value from it. This structural characteristic aligns with the relative deprivation framework applied to digital inequality (Helsper, 2017), as users witness the digital dividends accumulating for others while remaining unable to benefit from them because of a lack of true digital capital conversion skills.

Overall, this nuanced understanding of digital skills aligns with the shift toward the third-level digital divide, where digital inequality moves from access toward the skills to translate digital engagement into tangible life outcomes (Scheerder et al., 2017; van Deursen, 2020). Through an exploratory design, our study responds to Merisalo and Makkonen's (2022) call for an enhanced discussion of the role of digital capital within the third-level digital divide. Moreover, this study demonstrates that without the potential for the conversion of digital capital (Ragnedda, 2018), being technically connected may also correlate with the emergence of a DU (Ragnedda, 2020), whose members are equipped with basic digital skills but risk being left behind. Finally, the findings provide empirical support for the resource substitution hypothesis and digital capital theory in the context of a developing economy.

## 8. Conclusion

This study explored how digital skills relate to the PFM of young adults in China. Drawing on socio-digital stratification theory, we found that simply acquiring basic digital skills is not associated significantly with higher PFM. Instead, advanced digital skills are linked positively to PFM. Notably, compared with young adults who have acquired both basic and advanced skills, those who possess only basic digital skills are more likely to exhibit pessimistic perceptions of future mobility. Furthermore, this study found strong empirical support for the resource substitution hypothesis. Interestingly, while the overall level of general digital skills does not associate significantly with PFM, this association varies significantly across different levels of SES. Specifically, for disadvantaged youth with a lower SES, higher overall DSLs are strongly and positively related to PFM.

These findings offer practical implications for digital inequality. As basic internet access becomes nearly universal under national initiatives such as "Broadband China," the policy focus needs to shift. Rather than merely expanding basic connectivity, intervention programs could aim to cultivate advanced information and strategic skills. Supporting disadvantaged youth to acquire these advanced competencies may provide them with better resources to navigate a highly competitive society and pursue upward social mobility.

However, several limitations must be noted to contextualize our exploratory findings. First, this study uses cross-sectional data from the CGSS 2017. This dataset predates recent technological advancements such as artificial intelligence, and its cross-sectional design inherently limits our ability to establish any causal direction. Although specific digital tools change rapidly, we argue that the underlying social processes of digital stratification likely remain stable. Future studies should explore these associations using updated measures of artificial intelligence awareness and advanced digital practices. Furthermore, our operationalization of advanced skills, such as expressing thoughts online, serves as a proxy for active

engagement rather than a perfect measure of complex capital-enhancing strategies. Future research should utilize indicators that are more precise to measure high-level algorithmic control. Third, digital skills were assessed through self-reporting. Since young people sometimes overestimate their digital fluency, future research would benefit from using objective performance tests to capture actual skills more accurately. Fourth, we must clarify the exploratory nature of our findings regarding the DU. The subgroup of respondents who possess only basic skills was relatively small in our sample. Although the negative association with their PFM is statistically significant, this specific finding should be interpreted cautiously. Future research should verify these patterns through targeted sampling of marginalized populations. Additionally, the explanatory power of our models is relatively low, with an  $R^2$  value of approximately 0.07. Although this indicates a modest explained variance, such values are typical and acceptable in studies analyzing subjective perceptions through large-scale micro-level survey data, as individual expectations are shaped by numerous unobservable idiosyncratic factors (Wooldridge, 2016). Comparable  $R^2$  values are frequently reported in similar sociological and economic literature (e.g., Naito & Yamamoto, 2022; Oswald et al., 2015; Shi, 2023). Despite these limitations, we hope this study serves as a transparent starting point for understanding socio-digital stratification among young people.

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### Conflict of Interests

The authors declare no conflict of interests.

### Data Availability

The data that support the findings of this study are available from the Chinese General Social Survey (<http://cgss.ruc.edu.cn>).

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### About the Authors



**Hao Liu** is a PhD candidate at the School of Public Administration, University of Electronic Science and Technology of China. His main research interest is the digital divide.



**Chun Liu** is a professor at the School of Public Administration, University of Electronic Science and Technology of China. He is mainly interested in the digital divide and information technology management. He earned his PhD in mass communications from Pennsylvania State University.



**Puxin Zhang** is an assistant professor at the Research Institute of Public Administration, Sichuan Academy of Social Sciences. She is especially interested in information policy.

# Professional Inequality in Exile: Digital Precarity Among Skilled Syrian Refugees in Germany

Shaden Sabouni 

Department of Social and Cultural Sciences, Fulda University of Applied Sciences, Germany

**Correspondence:** Shaden Sabouni ([shaden.sabouni@sk.hs-fulda.de](mailto:shaden.sabouni@sk.hs-fulda.de))

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## Abstract

Highly skilled refugees are often assumed to possess forms of social and human capital that facilitate labour market integration in host societies. However, forced displacement disrupts not only professional trajectories but also the institutional and social infrastructures through which skills, qualifications, and professional identities are recognised and converted into employment. This article develops the concept of *connectivity without convertibility* to explain how digitally mediated social ties among highly skilled Syrian refugees in Germany remain socially active and emotionally meaningful while failing to generate institutional recognition or stable professional mobility. Drawing on 24 qualitative interviews, participant observation, and digital ethnography conducted between 2022 and 2024, the study examines how Syrian professionals use Facebook and WhatsApp groups to reconstruct professional networks, access information, and maintain occupational identity after displacement. The findings show that digital platforms provide emotional support, visibility, and symbolic forms of professional continuity, yet these forms of connectivity remain institutionally non-convertible. Rather than facilitating labour market integration, digital networking often reproduces prolonged waiting, downward mobility, and professional precarity. The article argues that *connectivity without convertibility* represents a broader structural condition of forced migration in which refugees remain digitally connected but excluded from the institutional mechanisms required for professional recognition and career restoration. Digital platforms therefore function less as pathways to integration than as fragile infrastructures of survival that sustain hope, identity, and social participation under conditions of structural exclusion.

## Keywords

digital migration; Germany; highly skilled refugees; professional precarity; social capital; Syrian refugees

## 1. Introduction

After several failed attempts to meet Ahmad, I finally visited him at his home following repeated calls. I had first met Ahmad and his wife, Rama, at a Contact Café, where Syrian refugees gather to practice German and get support. Our initial encounters were brief and formal, and it took time before Ahmad invited me into his private space.

On a cold evening, I stood at their doorstep, unsure how to approach someone long withdrawn from social interactions. He had postponed this visit several times, offering different reasons each time, as if reluctant to reveal a vulnerability he carefully kept hidden behind delay and distance. Ahmad, 48, a Syrian engineer, had arrived in Germany in 2018 with his wife and three children, hoping to rebuild a stable life. Rama, 42, had been a mathematics teacher in Syria, and their children, aged 7 to 13, sat quietly in the living room.

Ahmad sat at the small kitchen table, scrolling through his phone. He greeted me with a brief nod and exhaled smoke into an overflowing ashtray. Rama moved silently between the counter and stove, while the children watched television. The scene was calm yet emotionally dense, marked by hospitality, restraint, and a distance reflecting Ahmad's prolonged isolation.

On his screen, several Syrian Facebook groups were open. Ahmad explained he had joined nearly every group he could find, seeking someone with a shared professional background or information on engineering work, recognition procedures, or employment opportunities. He was not used to social media before; in Syria, professional life unfolded through offices, colleagues, and direct connections rather than screens. Here, however, these platforms had become his only window into a world of information otherwise inaccessible. Through these spaces, Syrian refugees in Germany shared detailed advice on jobs, qualification recognition, and bureaucratic pathways. This digital routine had become a quiet daily search to reconnect with a professional world that once defined him, offering hope and symbolic connection but rarely concrete results:

Every day I open Facebook and I search. Not because I like it, but because I don't know where else to go. In Syria, I knew who to call, who to visit. Here, I only have this screen. Sometimes I feel I am an engineer only inside my head.

What appears as casual scrolling is, in fact, a form of sustained professional labour. Facebook has become a space where displaced professionals attempt to reconstruct lost networks through fragile digital ties, substituting institutional relations with dispersed online connections that rarely produce tangible outcomes:

It became a daily habit. I scroll through these pages unconsciously. Sometimes hours pass while I am looking at this small screen. Even at night, I wake up to check notifications, hoping there might be something for me.

As he spoke, Ahmad showed me his Facebook feed, filled with posts from Syrian professional communities in Germany: job ads, questions about diploma recognition, short-term contracts, and long threads of advice in Arabic and German. These digital spaces had become his main contact with a professional world once structured by offices, colleagues, and institutions.

He explained he had sent his CV dozens of times through these groups, seeking feedback, recommendations, or guidance on employment channels matching his qualifications. Sometimes he received encouragement, often no response, and frequently comments from others facing the same difficulties. Instead of opening concrete opportunities, these exchanges often intensified his frustration and sense of professional despair:

In Syria, one phone call was enough to solve any problem. People knew me, they trusted my work. Here, I am sending myself into a void. Everyone sees me, but nobody really knows me.

Ahmad's experience illustrates a central paradox of digitally mediated life in exile. Like many highly skilled Syrian refugees in Germany, he arrived with expectations of professional continuity through formal institutions but instead encountered fragmented recognition systems and bureaucratic barriers. In this context, Facebook and WhatsApp became primary infrastructures for maintaining contact with a professional world that no longer existed in institutional form.

This article introduces the concept of *connectivity without convertibility* to describe how digitally sustained ties remain socially active yet fail to produce institutional recognition or professional mobility. Despite constant engagement, checking posts, sending CVs, and seeking advice, digital connections rarely lead to stable employment or recognition. Instead, they generate visibility and episodic encouragement without providing the trust, legitimacy, or institutional validation required for professional reintegration.

Skilled refugees are often framed as privileged actors in migration processes, assumed to integrate quickly due to their education and professional experience. However, forced displacement disrupts not only individual careers but also the social and professional infrastructures through which skills are recognised and converted into employment (Goodson & Phillimore, 2008; Strang & Quinn, 2021). Professional reputations, institutional affiliations, and long-standing networks of trust become partially or fully inaccessible, leaving individuals formally qualified yet structurally excluded.

Digital platforms are frequently presented as tools that can bridge these ruptures. Social media and messaging applications enable refugees to maintain transnational ties, access information, and reconstruct a sense of belonging (Dekker & Engbersen, 2014; Diminescu, 2008; Leurs & Smets, 2018). Facebook groups and WhatsApp networks created by Syrian professionals in Germany function as spaces where expertise is symbolically acknowledged and where professional identity is partially sustained. However, this recognition remains largely informal and does not translate into institutional validation.

This article examines how highly skilled Syrian refugees in Germany, including engineers, teachers, doctors, and lawyers, attempt to reconstruct professional and social ties through digital platforms such as Facebook and WhatsApp. Drawing on qualitative fieldwork conducted between 2022 and 2024 and 24 in-depth interviews, it explores how digital environments become central infrastructures for navigating professional loss, displacement, and uncertainty.

The findings challenge the assumption that digital connectivity enhances social capital in migration contexts. While social capital theory emphasises the role of networks in facilitating mobility (Bourdieu, 2018; Coleman, 1988; Granovetter, 1973), this study shows that under conditions of forced displacement, connectivity does not automatically translate into institutional outcomes. Instead, digital networking

produces connectivity without convertibility: Social ties remain active and meaningful but fail to generate access to stable employment or professional recognition.

In this context, digital platforms function as fragile substitutes for disrupted professional infrastructures. They sustain visibility, information exchange, and emotional support, but cannot replace the institutional, legal, and organisational systems required for professional recognition. Responsibility for navigating fragmented integration pathways is increasingly shifted onto individuals, often intensifying uncertainty and exhaustion rather than resolving it (Maletzky de García, 2021).

This dynamic contributes to what can be understood as an amplification of structural precarity. Rather than reducing barriers, digital platforms often redistribute them into individualised forms of labour, where success depends on continuous engagement without guaranteed outcomes.

The analysis engages debates on weak ties and social capital in migration studies. While weak ties can facilitate access to opportunities in stable labour markets (Granovetter, 1973), this study demonstrates that their effectiveness is structurally constrained in contexts of forced displacement. Without institutional recognition, weak ties remain socially present but economically non-productive.

Digitally mediated ties therefore do not replace disrupted professional networks. Instead, they operate as survival infrastructures, sustaining identity, hope, and connection while simultaneously exposing the structural conditions of exclusion. For displaced skilled refugees, professional recovery unfolds within a persistent tension between digital engagement and institutional absence.

## 2. Theoretical Framework

This article is grounded in interconnected literatures on social ties and social capital, forced migration and precarity among skilled refugees, digital migration and platform-mediated sociality, and digital labour. Together, these bodies of literature explain why digital platforms become central for displaced professionals, while also showing why digitally mediated ties remain insufficient to restore professional stability, recognition, and emotional security.

### 2.1. *Social Ties and Social Capital*

Social ties are a central resource in shaping access to employment, mobility, and social integration. Granovetter (1973) distinguished between strong and weak ties: Strong ties, such as close family or long-term professional collaborations, are characterised by trust, emotional depth, and durability, while weak ties, such as acquaintances or loose professional contacts, function as bridges to new information and opportunities. In labour markets, weak ties are often crucial for connecting individuals to jobs beyond immediate networks.

Later research expanded this insight by conceptualising social capital as resources embedded in social relations (Bourdieu, 2018; Coleman, 1988; Putnam, 2000). For Bourdieu (1986), social capital is inseparable from power and recognition; it is accumulated through long-term participation in social fields and depends on institutional certification. Professional networks are thus structured systems of trust, reputation, and symbolic legitimacy.

In skilled professions like medicine, engineering, and law, employment access is closely tied to institutionalised networks, professional bodies, and shared standards of competence (Evetts, 2013).

Migration scholarship has long emphasised the importance of social networks in facilitating labour market integration, housing access, and emotional support (Massey et al., 1993; Portes, 1998). However, this literature often assumes continuity of social capital across borders. For voluntary migrants, professional mobility is frequently planned and supported by pre-existing networks. For refugees, displacement ruptures these networks: Professional recognition embedded in them is often lost, leaving connections emotionally meaningful but practically ineffective. For refugees like Ahmad, digital ties may preserve visibility and hope, but weak ties alone cannot compensate for disrupted institutional recognition.

## ***2.2. Forced Migration and Precarity Among Skilled Refugees***

Forced migration fundamentally challenges traditional understandings of skilled mobility. Research on refugee professionals shows that displacement produces a condition of “de-skilling,” in which education and experience lose their exchange value in host-country labour markets (Bauder, 2003; Colic-Peisker & Tilbury, 2006; Kofman, 2014). This is not primarily due to a lack of competence, but to non-recognition, bureaucratic barriers, and the loss of embedded professional networks.

Erel (2010) and Liversage (2009) argue that qualifications are evaluated through nationally embedded systems privileging locally produced knowledge and credentials. Refugees, whose mobility is unplanned and frequently accompanied by interrupted documentation or prolonged displacement, encounter particularly restrictive recognition processes. Professional capital therefore becomes formally present but practically inaccessible. Careers built over decades through institutional affiliations, trusted networks, and professional reputations are destabilised through forced migration. Skilled refugees consequently become formally qualified yet structurally marginalised.

The consequences of this disruption are not solely economic or occupational but also deeply emotional and symbolic. Professional identity is closely tied to dignity, social recognition, and personal coherence. As van Riemsdijk and Axelsson (2021) demonstrate, prolonged exclusion from professional systems destabilises refugees’ sense of self as competent professionals. The longer professional interruption persists, the more difficult it becomes to reclaim legitimacy and confidence. Rebuilding social ties therefore becomes more than an instrumental strategy for employment—it becomes a struggle to restore dignity, recognition, and continuity of selfhood.

This condition generates a broader form of precarity characterised by instability, uncertainty, and prolonged waiting. Skilled refugees often experience downward mobility despite residing in countries with formal integration infrastructures (Ager & Strang, 2008). Employment trajectories become fragmented, professional futures uncertain, and long-term planning increasingly difficult. Precarity thus extends beyond unstable labour conditions and encompasses legal insecurity, emotional exhaustion, and symbolic displacement.



### 2.3. Digital Migration and Platform-Mediated Sociality

Digital technologies have become central infrastructures of contemporary migration. Research on digital migration highlights how smartphones and social media platforms facilitate transnational connectivity, access to information, and emotional support (Dekker & Engbersen, 2014; Diminescu, 2008; Leurs & Smets, 2018). These platforms enable migrants to maintain family relations, navigate bureaucratic systems, and create digitally mediated spaces of belonging across borders.

For skilled refugees, Facebook groups, WhatsApp networks, and online professional forums emerge as important sites of hope and orientation. They allow displaced professionals to reconnect with peers, circulate professional knowledge, and sustain a sense of occupational identity. In these spaces, professional expertise is often acknowledged symbolically, producing a temporary sense of recognition and belonging (Alencar, 2018; Ruan et al., 2020). Digital diasporas further reinforce these dynamics by reproducing shared language, experience, and collective identity in online environments (Keles, 2015).

At the same time, these forms of connectivity remain structurally fragile. Information circulating in such networks is often uneven, informal, and not institutionally validated. Advice is frequently produced by peers without formal authority, while official knowledge remains fragmented or inaccessible. As a result, digital engagement can generate ambivalence: It sustains participation and emotional support but also produces frustration and uncertainty when expectations of mobility are not met (Leurs & Smets, 2018; Madianou, 2019). This reflects connectivity without convertibility.

This limitation becomes particularly evident when digital platforms are understood through the lens of social capital. Classic weak-tie theory suggests that loose and diverse networks can expand access to opportunities (Granovetter, 1973). However, in contexts of forced displacement, this mechanism is fundamentally constrained. Weak ties do not automatically translate into opportunity when institutional environments are fragmented or exclusionary. Following Bourdieu (2018), social ties only become effective capital when they are recognised and validated within institutional structures. Digital platforms may increase connectivity, but they do not provide the institutional conditions necessary for converting that connectivity into professional mobility or recognition.

Institutional barriers, credential recognition regimes, and labour market segmentation further restrict this conversion (Erel, 2010; Liversage, 2009). As a result, digitally mediated ties remain socially active but structurally non-productive: They circulate information, emotion, and identity without generating stable pathways into professional systems.

Building on these debates, this article develops the concept of *connectivity without convertibility*. The concept refers to a condition in which digital ties remain emotionally meaningful, socially active, and continuously reproduced while failing to translate into institutional recognition, professional legitimacy, or labour market mobility. In contexts of forced displacement, social connectivity is therefore not absent but structurally suspended from conversion into economic and professional capital.

For displaced professionals, digitally mediated ties therefore offer symbolic repair rather than structural restoration. They sustain professional identity, provide emotional support, and generate hope, yet cannot

reconstruct the institutional, legal, and social infrastructures required for professional recognition. Ahmad's case illustrates this paradox: Digital networks maintain connection and visibility while simultaneously revealing the limits of recognition under conditions of displacement.

#### ***2.4. Digital Labour and the Maintenance of Professional Visibility***

Digital labour provides an important analytical lens for understanding how displaced professionals attempt to maintain visibility, recognition, and hope under conditions of precarity. For highly skilled refugees, this labour is not limited to formal job seeking; it includes monitoring online groups, circulating CVs, responding to messages, maintaining professional presence, and remaining available for possible opportunities. These practices are shaped by broader conditions of insecurity, instability, and vulnerability, which Butler (2004) conceptualises as precarity.

Digital platforms intersect with this precarity ambivalently. On the one hand, they provide access to information, emotional reassurance, and professional networks otherwise unavailable to displaced individuals. On the other hand, they normalise informality and shift the burden of integration increasingly onto refugees themselves. Refugees become responsible for continuously searching, networking, responding, and remaining digitally visible in order to maintain the possibility of opportunity.

Within this context, digital engagement itself becomes a form of labour. Maintaining visibility, monitoring online groups, circulating CVs, responding to messages, and sustaining professional presence constitute ongoing affective and informational work. Soronen and Koivunen (2022) argue that platform-mediated environments intensify forms of emotional and professional self-management by requiring constant engagement under uncertain conditions. Digital networking therefore becomes embedded within broader conditions of precarious labour and social insecurity.

In such contexts, opportunities emerge unpredictably and disappear quickly, while failure becomes individualised. Digitally mediated ties sustain professional identity and hope, yet they cannot restore the institutional legitimacy necessary for stable professional futures. Precarity is therefore intensified not only through unstable employment but also through the continuous maintenance of connections that cannot be converted into institutional outcomes.

#### ***2.5. Rethinking Weak Ties in Contexts of Forced Displacement***

Taken together, these bodies of literature provide an analytical framework for understanding why digitally mediated social ties are simultaneously central and insufficient in contexts of displacement. Social capital theory explains the importance of networks for access, mobility, and recognition. Forced migration scholarship shows how displacement disrupts professional biographies, institutional belonging, and the convertibility of previously accumulated skills. Digital migration studies highlight how platforms sustain information exchange, emotional support, and forms of belonging. Finally, the concept of digital labour draws attention to the continuous work displaced professionals perform to remain visible, responsive, and professionally present under uncertain conditions.

This article therefore builds on, but also critically revises, classical weak-tie theory. While weak ties may facilitate access to opportunities in relatively stable labour markets (Granovetter, 1973), their effectiveness is significantly constrained within fragmented and exclusionary institutional environments. Following Bourdieu (1989), social ties only function as effective capital when they are institutionally recognised and legitimised. Digital platforms may make professional ties visible, but they cannot independently guarantee legitimacy, certification, or stable career trajectories.

For displaced professionals, digitally mediated ties consequently offer symbolic repair rather than structural restoration. They help sustain professional identity, emotional belonging, and collective support, yet they cannot reconstruct the institutional, legal, and social infrastructures required for professional recognition. Ahmad's case exemplifies this contradiction: Digital networks sustain connection and hope while simultaneously revealing the emotional and structural limits imposed by forced displacement.

### 3. Historical and Structural Disruption of Skilled Syrian Careers

Since the outbreak of the Syrian war in 2011, one of the most devastating consequences has been the forced displacement of a highly educated and professionally experienced population. Syria, once home to a strong public sector and established professions such as medicine, engineering, education, and law, lost a significant portion of its skilled workforce (Tigau, 2019). For many, displacement did not merely interrupt individual careers—it dismantled the professional and social infrastructures built over decades.

For highly skilled Syrians arriving in Germany, professional identity was grounded in years of education, practice, and embeddedness in networks of colleagues, institutions, and clients—networks essential for recognition, stability, and career progression. Displacement ruptured these structures. A prolonged “frozen phase,” often spent in Syria or neighbouring countries such as Turkey, Jordan, or Lebanon, limited legal access to work and consumed several years of professional life (OECD, 2016).

When return became unrealistic, further delays emerged through migration trajectories marked by uncertainty, bureaucratic barriers, and family relocation. Even after arrival in Germany, integration processes—language acquisition, residence procedures, and qualification recognition—extended this interruption. As a result, many experienced gaps of 10 to 15 years, during which knowledge became outdated, professional confidence weakened, and opportunities for re-entry diminished (Kosyakova & Brenzel, 2020; van Riemsdijk & Axelsson, 2021).

This prolonged disruption produces not only occupational displacement but also a destabilisation of professional identity. Rebuilding social ties becomes more than a strategy for employment—it is a struggle to restore recognition, dignity, and a coherent sense of self.

Unlike voluntary migrants, who often mobilise networks strategically, displaced professionals must reconstruct them under conditions of fragmentation and loss. Networks that once sustained careers are scattered or dissolved, making their reconstruction a central yet uncertain process. Ahmad's trajectory—years of interrupted professional life, regional displacement, and prolonged bureaucratic delays—reflects these broader structural challenges.

Digital platforms have emerged as one avenue for reconnecting with professional communities. Facebook groups and WhatsApp networks provide access to information, emotional support, and limited forms of solidarity. However, they rarely generate stable pathways into professional employment. Instead, they expose the fragility of digitally mediated ties and the persistence of structural barriers, leaving displaced professionals navigating between symbolic recognition and material exclusion (Soronen & Koivunen, 2022).

By tracing the trajectories of three highly skilled Syrian refugees—a male engineer, a female lawyer, and a male dentist—this article illustrates how forced displacement reshapes the meaning of skill, experience, and professionalism in exile. These cases highlight how long-term interruption, institutional barriers, and fragmented networks undermine professional continuity and complicate efforts at reintegration.

## 4. Methodology

This study adopts a qualitative research design using methodological triangulation to capture the complexity of how highly skilled Syrian refugees reconstruct social and professional ties through digital platforms. By combining data sources, methods, and analytical perspectives, triangulation enhances the credibility of the findings and enables a multi-dimensional understanding of the phenomenon (Denzin & Lincoln, 2011; Flick et al., 2004). Given the emotional, social, and institutional layers of displacement, a single method would be insufficient to capture the interplay between professional biographies, digital practices, and experiences of precarity.

The research integrates in-depth interviews, offline and online participant observation, and qualitative analysis of digital environments such as Facebook groups and WhatsApp communities. It combines data triangulation, method triangulation, and researcher positionality as an interpretive resource, allowing the study to examine not only participants' accounts but also how they act and interact within digital and social fields.

### 4.1. *Research Design and Fieldwork*

The research is grounded in long-term qualitative fieldwork conducted between 2022 and 2024 in several German cities with significant Syrian refugee populations. The central focus was on highly skilled Syrian refugees who had completed university education and accumulated professional experience in Syria before displacement. Participants included doctors, engineers, teachers, lawyers, dentists, and academics. The study is not concerned with representativeness in a statistical sense, but with analytical depth and theoretical saturation (Charmaz, 2014; Corbin & Strauss, 2008).

Qualitative research is particularly suited to examining processes of professional identity, social rupture, and digital coping strategies, as these are deeply subjective, relational, and emotionally embedded (Creswell, 2007). The aim was to understand how displaced professionals interpret their own experiences and how digital platforms are woven into their everyday struggles for recognition and stability.

### 4.2. *In-Depth Interviews*

The core of the empirical material consists of 24 semi-structured, in-depth interviews. Interviews lasted between 90 and 150 minutes and were conducted in Arabic and translated into English. This linguistic

flexibility was crucial for enabling participants to articulate complex emotional and professional experiences in a language that felt safe and precise (Temple & Young, 2004).

The interview guide was organised around four thematic blocks: first, professional life in Syria, including education, career trajectories, professional networks, and the meaning of professional identity and social recognition; second, displacement and interruption, covering experiences during the war, waiting phases, regional displacement, and the loss of networks, status, and institutional belonging; third, arrival in Germany and navigation of bureaucratic processes, including recognition of qualifications and experiences of de-skilling and downward mobility; and fourth, digital practices, including the use of Facebook, WhatsApp, and online professional groups, as well as experiences of networking, hope, disappointment, and exhaustion.

Interviews were audio-recorded, transcribed verbatim, and anonymised. The data were analysed using thematic analysis (Braun & Clarke, 2006), through iterative coding cycles across interview transcripts, fieldnotes, and digital observation data. Coding was carried out manually without qualitative analysis software, allowing for close engagement with the material and reflexive comparison across cases. Initial codes were progressively refined into higher-order themes, which directly informed the structure of the findings section. Accordingly, the sub-headings in the findings reflect the analytically derived themes emerging from this process.

#### ***4.3. Participant Observation in Offline and Online Spaces***

To complement interview narratives, participant observation was conducted in both physical and digital environments. Offline observation included informal meetings, professional events, language courses, and community gatherings where highly skilled Syrian refugees exchanged information and support. These encounters provided insight into how professional identity is negotiated in everyday interactions and how frustration, hope, and exhaustion are collectively experienced.

In addition to offline observation, digital participant observation was conducted by joining Facebook groups and WhatsApp communities used by Syrian professionals seeking employment. The focus was on groups identified by participants as central to their networking practices and observed over extended periods. Attention was given to job advertisements, advice and mentorship exchanges, emotional expressions (encouragement, despair, solidarity), circulation of CVs, and patterns of silence. Active engagement in discussions and information exchange enabled real-time observation of networking dynamics and facilitated connections with potential participants, many of whom were later interviewed. This combined approach made it possible to trace patterns of support and exclusion and to examine how professional identity is performed, recognised, and contested in digital spaces.

Digital ethnography enabled the analysis of sociality within platform-based environments (Hjorth et al., 2017). These spaces were treated not merely as technical tools, but as social fields in Bourdieu's sense, shaped by power relations, hierarchies of recognition, and emotional labour.

Observation notes were systematically documented and compared with interview data, allowing identification of discrepancies between narrated experiences and actual practices—an important element of triangulation.

#### **4.4. Digital Data as Social Practice**

Rather than treating online content as isolated texts, this study conceptualises digital data as situated social practice. Facebook posts, WhatsApp messages, and interaction patterns were analysed as expressions of collective coping, professional aspiration, and structural constraint. The analysis focused on recurring themes: hopeful self-presentation, informal recruitment practices, circulation of uncertainty, and emotional support and burnout. This approach aligns with scholarship viewing digital migration as embedded in everyday survival strategies rather than a separate technological domain (Leurs & Smets, 2018; Madianou, 2019).

#### **4.5. Triangulation Strategy**

Triangulation was central to the analysis and was implemented in three ways. First, method triangulation combined interviews, participant observation, and digital ethnography to capture multiple dimensions of the phenomenon (Denzin & Lincoln, 2011; Flick, 2022), systematically comparing interview accounts with online and offline behaviour. Second, data triangulation collected information across cities, professions, genders, and legal statuses, revealing structural patterns rather than isolated experiences. Third, theoretical triangulation drew on social capital, precarity, and digital migration, enabling a nuanced interpretation of digital networking as both empowering and limiting. Triangulation was not used to “verify truth” in a positivist sense but as a strategy to enrich understanding and expose contradictions (Flick, 2004, 2018).

#### **4.6. Positionality and Reflexivity**

This research is shaped by my positionality as a Syrian refugee and scholar studying displacement and family transformation. Shared linguistic, cultural, and experiential backgrounds facilitated trust and openness, especially when discussing humiliation, professional loss, and exhaustion. At the same time, this closeness required constant reflexivity to avoid over-identification and maintain analytical distance (Berger, 2015). Throughout the study, I maintained reflexivity about my positionality and ensured participants were supported and respected during offline and online interactions.

#### **4.7. Ethical Considerations**

All participants were informed about the aims of the study and gave informed consent. Pseudonyms were used, and identifying details were removed. Given the vulnerability associated with legal status, employment insecurity, and trauma, particular care was taken to avoid any form of exposure or harm. Ethical research in forced migration contexts requires attentiveness to emotional fatigue, trust, and the asymmetry between researcher and participant (Mackenzie et al., 2007).

### **5. Findings**

The findings are structured around emergent themes derived from the iterative coding of interview, observational, and digital ethnographic data, with each subsection representing a distinct yet interconnected dimension of how digital platforms shape the professional and social experiences of highly skilled Syrian refugees in Germany.

The analysis shows that digital platforms occupy a central yet ambivalent role in the professional and social lives of highly skilled Syrian refugees in Germany. Facebook groups and WhatsApp communities provide orientation, emotional support, and a fragile sense of professional recognition. Yet these platforms reveal the structural weakness of digitally mediated ties: They rarely lead to institutional recognition, stable employment, or professional reintegration. For refugees whose pre-war careers and networks were dismantled, online connections offer hope but remain provisional, suspended amid legal uncertainty, bureaucratic barriers, and labour market fragmentation. Rather than restoring disrupted networks, digital platforms sustain emotional resilience and symbolic identity but cannot fully compensate for long-term professional interruption, as seen in Ahmad's experience.

### ***5.1. Institutional Substitution Through Digital Emergency Infrastructures***

For most participants, digital platforms became the first point of entry into professional life after arrival. In the absence of accessible institutional guidance, Facebook groups and WhatsApp networks replaced formal advisory structures. In this sense, digital platforms increasingly operated as "survival infrastructures" for displaced populations (Madianou, 2019). Participants described these spaces as indispensable for understanding recognition procedures, language requirements, and possible employment pathways.

Najeeb, a Syrian dentist, explained that Facebook became his "professional office," the only place where he could ask questions that no institution was willing or able to answer. He recounted his experience with digital guidance and institutional obstacles:

I found a post about a dentist position in a Facebook group and applied immediately. I waited a long time until I was invited to an interview. I bought a new suit, prepared myself, and practised thoroughly before the interview. Yet, they said I was not qualified enough. A few days later, I heard they hired another person. I have more experience than him. I worked for more than eight years and ran my own clinic. But no one acknowledged that.

However, information in these spaces was often contradictory and uneven, reflecting the instability of online knowledge. Advice based on individual experiences required participants to navigate a constant tension between trust and doubt, turning networking into emotional labour that demanded sustained investment and endurance. Digital platforms filled the gap left by institutional absence but lacked the authority of pre-war professional networks. For Ahmad and others, they offered hope and symbolic recognition, yet could not restore professional legitimacy or accumulated social capital.

### ***5.2. Affective Governance of Hope and Exhaustion in Digital Migration Spaces***

Digital spaces sustained a fragile economy of hope. Success stories posted in groups temporarily generated collective optimism and reaffirmed the belief that professional recovery was still possible. This resonates with Alencar's (2018) argument that digital platforms can function as spaces of emotional reassurance and collective resilience for refugees. Yet this hope was persistently undermined by the overwhelming number of unsuccessful attempts. CVs were sent, recommendations were requested, and messages were written, often without any response. Sameer, a Syrian refugee, explained:



When I arrived, I thought life would be much easier for me here. I am an engineer, I hold a strong certificate and a master's degree, and I have been working in this field for more than 15 years. I sent my CV to more than 20 companies and was confident I would get a job shortly after learning the language. Seven years have passed, and I am still sending more CVs every day, but no one is responding.

Participants described this experience as emotionally draining and professionally humiliating. As argued by Soronen and Koivunen (2022), digital platforms intensify affective labour by forcing individuals to continuously manage disappointment while maintaining public optimism. Interviews revealed that participants felt visible but unrecognised, active but powerless, a condition that mirrors Ahmad's experience as an emblematic case of skilled refugee professionals.

In this sense, digital platforms did not simply facilitate networking. They became spaces where emotions were collectively produced, circulated, and regulated. Hope was sustained, but only through the constant reproduction of effort, which in turn deepened exhaustion and professional self-doubt.

### **5.3. Connectivity Without Institutional Convertibility**

Participants repeatedly emphasised that digital connectivity did not translate into institutional convertibility. They were encouraged, praised, and supported within digital communities, yet their qualifications continued to be questioned or ignored by professional bodies and employers. Mais, a Syrian lawyer, described her experience navigating Facebook groups and online communities:

I joined all groups for Syrian lawyers in Germany, and people shared advice on how to get my qualifications recognised. I followed every tip, contacted every suggested office. Yet, months passed, and my applications were still rejected.

These dynamics indicate that digital visibility does not accumulate into institutional recognition, but instead stabilises a parallel system of non-convertible professional exchange. They also support the argument that social capital only becomes effective when it is validated by institutional structures (Goodson & Phillimore, 2008). Digital platforms sustained connectivity and visibility without institutional conversion.

### **5.4. The Normalisation of Downward Mobility**

One of the most striking findings is how digital platforms gradually normalised professional downgrading. Posts about low-skilled jobs circulated alongside discussions of recognition procedures and professional aspirations. Over time, this coexistence reshaped expectations. Participants began to describe survival-oriented employment not as temporary deviation, but as a likely long-term reality. Rima, a Syrian teacher, reflected on her experience navigating online professional networks:

I have been teaching French in language institutes for more than 20 years. When I arrived in Germany, I hoped to continue my career, but the schools here require recognition procedures that are nearly impossible for me to complete. My previous certificates must be re-obtained through legal institutions, and many language schools only hire native speakers. I felt betrayed. I joined Facebook and WhatsApp groups to look for jobs. I read every post, followed all advice, and even reached out to people for mentorship. But nothing changed.

This illustrates conditions of precarity, where uncertainty becomes normalised and stable professional trajectories are disrupted. In this context, digital platforms do not simply reflect precarious realities—they also contribute to their normalisation by circulating accounts of unstable work and fragmented careers. As van Riemsdijk and Axelsson argue, downward mobility among skilled migrants involves not only material loss but also symbolic erosion of professional identity (van Riemsdijk & Axelsson, 2021). Rather than restoring status, digital spaces thus become sites where professional decline is rendered visible and gradually normalised.

Participants described a shift in their digital conversations from professional aspirations toward everyday survival. References to engineering, law, or teaching were increasingly replaced by discussions of warehouse work, cleaning jobs, and other forms of precarious employment. This shift did not reflect resignation, but rather an adjustment of expectations shaped by prolonged exclusion from institutional recognition.

### **5.5. Gendered Experiences of Digital Networking**

Digital precarity was experienced in gendered ways. Women used digital platforms more intensively for emotional support and flexible access to information, particularly when caregiving responsibilities limited their physical mobility. This aligns with Kofman's observation that migration regimes interact with gendered care structures, producing unequal opportunities for professional recovery (Kofman, 2012). At the same time, women faced longer professional interruptions and higher barriers to re-entry, especially in regulated professions such as law and medicine. Mais, a lawyer, reflected on the gap between the hope generated through online professional networks and the continued absence of institutional recognition:

As a mother, I couldn't attend every in-person workshop. I relied heavily on WhatsApp and Facebook groups to understand recognition procedures and get advice from other women. Sometimes I felt encouraged, sometimes overwhelmed, but these digital spaces allowed me to stay informed and connected without leaving my children alone at home.

Men, especially those who strongly identified with breadwinner roles, described digital networking as a source of humiliation and loss of dignity. Van Riemsdijk and Axelsson note that downward mobility among skilled refugees often produces a crisis of masculinity and professional identity (van Riemsdijk & Axelsson, 2021). In this study, digital platforms became spaces where this crisis was deeply intensified. Requesting help publicly, circulating CVs repeatedly, and receiving no response were experienced as forms of symbolic degradation. Participant Fadi elaborated:

I kept sending my CV through the Facebook group, asking for guidance. Weeks went by with no response. Each time I saw others getting jobs I was qualified for, I felt humiliated. I used to be the head of my engineering team in Syria; now I feel helpless. Every request for help is a reminder that my skills don't count here.

Thus, digital platforms did not neutralise gendered hierarchies. Instead, they became spaces where shifting gender roles, professional loss, and emotional vulnerability were negotiated in highly unequal ways.

### **5.6. Digital Waiting and Stalled Professional Trajectories**

Digital platforms shaped a distinctive experience of waiting. Participants' daily routines revolved around checking messages, monitoring groups, sending applications, and anticipating responses. This waiting was active rather than passive, yet it remained institutionally unproductive, reflecting how migration regimes suspend professional trajectories. In this study, digital platforms functioned as the medium through which this form of waiting was organised, intensified, and sustained. Participant Samer explained:

Every morning, I check the Facebook group for job posts, reply to messages, send applications, and wait for replies. I feel like I am always busy, but nothing changes. I spend hours online, but my professional life is frozen. It feels like I am moving in place.

Constant digital activity created an illusion of movement while actual professional trajectories remained blocked. Madianou argues that digital connectivity can mask structural abandonment by shifting responsibility onto individuals (Madianou, 2019). The findings strongly support this claim. Participants were constantly working on their own integration digitally, yet institutional pathways remained slow, fragmented, and inaccessible. Mais, again, explained:

As a mother, I couldn't attend in-person workshops or meetings. I relied on WhatsApp and Facebook groups to get information. Even though I was active online every day, the institutional doors remained closed. I felt constantly busy but powerless, and the waiting was exhausting.

### **5.7. Digital Platforms as Symbolic Repair, Not Structural Restoration**

Across all cases, including the engineer, the lawyer, and the dentist, digital platforms functioned primarily as spaces of symbolic repair. They helped participants maintain a sense of professional identity, dignity, and social belonging. They allowed them to speak the language of their professions, exchange specialised knowledge, and remain connected to a professional self that was otherwise institutionally denied. Samer told me:

Even if nothing comes of my applications, writing posts and sharing knowledge online makes me feel like a professional again. It reminds me that I am still an engineer, even if the institutions don't see it.

Digital engagement allowed participants to maintain purpose and professional interaction, even when structural barriers blocked actual employment. Mais reflected:

In the Facebook group, I can discuss cases, ask questions, and help others. It gives me a sense of purpose and professional identity. But at the end of the day, it does not get me a job or recognition from the authorities.

Despite this sense of symbolic restoration, the repair remained limited. Digital platforms offered visibility and solidarity but lacked the authority to provide institutional recognition, certification, or career advancement, as Najeeb explained:

I can advise people in the group and feel useful, but my diploma is still not recognised here. Online interactions keep me connected to my profession, but they don't change my situation.

At the same time, the findings show that digital platforms are neither purely empowering nor merely illusory. They function as fragile infrastructures of survival in the absence of institutional support, sustaining connection and emotional endurance while reproducing professional precarity, downward mobility, and prolonged waiting. This illustrates connectivity without convertibility, revealing the structural limits of digitally mediated social ties for displaced skilled professionals.

## 6. Conclusion

This study shows that digital platforms occupy a paradoxical position in the lives of highly skilled Syrian refugees in Germany. Facebook and WhatsApp groups facilitate communication, information exchange, and emotional support, yet they do not translate into institutional recognition or stable employment.

Across the empirical cases, digital engagement sustains participation and professional visibility without enabling access to regulated labour markets or recognition of prior qualifications. These platforms function as spaces of symbolic repair, allowing participants to maintain dignity and professional identity under conditions of exclusion.

The analysis also highlights how digital practices structure the experience of time in displacement. Daily routines organised around searching, waiting, and responding create a sense of activity that coexists with institutional stagnation, contributing to the normalisation of prolonged professional interruption and downward mobility.

Importantly, the findings challenge the assumption that digital connectivity enhances social capital in contexts of forced migration. Instead, they show that without institutional recognition, connectivity remains limited in its effects: It produces interaction and information flows but not professional conversion. This condition of connectivity without convertibility reflects a broader structural feature of contemporary migration regimes, in which the burden of integration is increasingly placed on individuals and informal digital networks.

From a policy perspective, the study suggests that addressing these limitations requires more than expanding digital access or informal networking spaces. It depends on strengthening institutional recognition pathways for foreign qualifications and creating clearer links between informal digital exchanges and formal validation processes. Professional associations, universities, and labour market institutions are central in this regard, particularly through structured mentoring, verified guidance systems, and hybrid forms of professional integration.

Ultimately, the study argues that the core challenge lies in the gap between social connectivity and institutional recognition. Digital platforms sustain important forms of social and emotional survival, but they cannot replace the institutional infrastructures required for professional restoration. Bridging this gap is essential for moving beyond symbolic inclusion toward substantive professional integration.

The article's central contribution lies in the concept of connectivity without convertibility. The findings demonstrate that digitally mediated ties among highly skilled refugees can sustain visibility, emotional support, and professional identity while remaining structurally disconnected from institutional recognition and labour market mobility. Digital connectivity therefore does not inherently generate social capital under

conditions of forced displacement; its effects depend on the institutional structures through which recognition becomes convertible into professional futures.

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### Conflict of Interests

The author declares no conflict of interests.

### Data Availability

The qualitative interview data supporting this study are not publicly available due to ethical restrictions and to protect participant confidentiality. Anonymised excerpts may be available from the corresponding author upon reasonable request.

### LLMs Disclosure

ChatGPT (OpenAI) was used for language editing and stylistic refinement of the manuscript. Grammarly was used for grammar and punctuation checking. The research design, data analysis, interpretation, and conclusions are entirely the work of the author.

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## About the Author

**Shaden Sabouni** is a researcher at the Department of Social and Cultural Sciences, Fulda University of Applied Sciences, Germany. Her research focuses on transformations of family figurations and gendered relations among Syrian refugee families in Germany, with particular attention to displacement, integration, and changing family dynamics.



# Digitally Connected Migrants and Their Investment in Learning a Small Language: The Case of Iceland

Lara Wilhelmine Hoffmann <sup>1</sup>  and Markus Meckl <sup>2</sup> 

<sup>1</sup> School of Education, University of Iceland, Iceland

<sup>2</sup> Faculty of Social Sciences, University of Akureyri, Iceland

**Correspondence:** Lara Wilhelmine Hoffmann (laraw@hi.is)

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## Abstract

Migrants today, described by Dana Diminescu as connected migrants, sustain continuous ties across borders. This article examines how transnational digital connectedness relates to migrants' investment in learning smaller languages. Focusing on Iceland, a small-language context where English functions widely as a lingua franca, this study integrates digital migration research with sociolinguistic theories of linguistic investment. Using a mixed-methods design, we combine a descriptive, exploratory analysis of survey data from 2,211 immigrants with 11 in-depth interviews that investigate migrants' language-learning trajectories, inclusion, and transnational ties. Survey results show broad normative support for learning Icelandic alongside high levels of digital connectedness. However, qualitative findings reveal substantial variation in how migrants interpret and enact this expectation. We identify five orientations toward learning Icelandic in the interviews: enthusiastic integration-oriented migrants, pragmatic learners, frustrated learners, community-based learners, and globally oriented residents. These orientations can change at different stages of individuals' language-learning trajectories, reflecting different balances between global connectedness and local investment in language learning. These orientations demonstrate how digital connectivity can facilitate participation, e.g., by providing access to language-learning resources, but can also reduce the perceived need to invest in the local language. By linking digital migration studies with sociolinguistic theories of investment, the article advances understanding of how migrants negotiate language learning, belonging, and participation in small-language societies amid global mobility.

## Keywords

digital connectedness; Iceland; linguistic investment; migrants; small languages

## 1. Introduction

Digital media enable migrants to sustain personal relationships and professional networks across borders. Diminescu (2008) argues that nowadays, “connected migrants” inhabit multiple social and linguistic worlds at once. Diminescu defines a connected migrant as “a migrant equipped with at least one digitalized device which enables him/her to instantaneously switch between several lifestyles” (Diminescu, 2020, p. 74). Prior research suggests that such transnational digital ties are not detrimental to local embeddedness but can enhance migrants’ well-being and participation in their place of residence (Hoffmann et al., 2022; Hofhuis et al., 2019). However, the affordances of digital connectedness also raise questions about migrants’ investment in smaller, less globally dominant languages, where the perceived benefits of learning the local language may be less obvious (Pöyhönen & Simpson, 2024). Investment in language learning, a term coined by sociolinguist Norton, provides a useful conceptual framework for understanding why, for example, learners who are initially highly motivated to learn a language might decide to engage or disengage from learning due to larger societal factors such as unequal access to language learning resources, attitudes of the receiving community towards new speakers, or the affordances provided by the lingua franca English (Darvin & Norton, 2021; Norton, 2013).

This article contributes to the literature by showing that digital connectedness does not simply compete with local language learning in small-language societies but reorganizes language learning into different orientations. The present study advances prior research on adult migrants’ language learning with an in-depth analysis of how digital transnational ties to migrants’ countries of origin relate to linguistic investment. Iceland is a particularly insightful case for this study: It combines a strong linguistic identity with widespread use of English in workplaces, education, and everyday life (Hilmarsson-Dunn & Kristinsson, 2013). We refer to Icelandic as a small language because of its comparatively small number of speakers (Hoffmann & Holm, 2025). Today, Iceland has nearly 400,000 inhabitants, of whom 17% are immigrants, with varying levels of proficiency in L2 Icelandic (Kristinsson, 2024). While public policy stresses the importance of Icelandic for participation in society (Ministry of Social Affairs and Labour, 2024), many migrants, especially those planning to stay temporarily, find English sufficient for practical needs and everyday interaction (OECD, 2024). A recent report by the OECD found that the share of immigrants in Iceland who claim advanced proficiency in the local language is below 20%, the lowest among OECD countries (OECD, 2024).

The coexistence of a small national language, the dominant global lingua franca English, and sustained transnational digital connectivity creates a distinctive context in which belonging, participation, and linguistic expectations are continuously negotiated. Our central hypothesis is thus that digital connectedness reshapes migrants’ language learning trajectories.

This article examines how digital connectedness shapes migrants’ investment in learning Icelandic. Specifically, we ask:

1. How is migrants’ degree of digital connectivity associated with their attitudes toward learning a small language?
2. How do digitally connected migrants narrate and negotiate learning and using Icelandic in everyday life?

To address these questions, we adopt a mixed-methods design. Survey data from 2,211 immigrants reveal patterns in immigrants' language practices and transnational ties, while 11 in-depth interviews offer insight into migrants' thoughts and considerations about language learning and their social environments.

Our analysis draws on Diminescu's (2008, 2020) concept of connected migrants and Norton's (2000, 2013) concept of linguistic investment. Based on the interview material, we identify five recurring orientations toward learning Icelandic: enthusiastic integration-oriented migrants, pragmatic learners, frustrated learners, community-based learners, and globally oriented residents. By integrating quantitative data with narrative accounts, this study advances debates on integration and social inclusion in the era of digital mobility, clarifying when and why transnational digital connectivity functions as a resource for participation, a disincentive to local language learning, or both.

First, we present our theoretical framework and the key concepts. Then, we discuss prior studies on digitally connected migrants in small-language contexts and our methodology, followed by a presentation of the findings. Lastly, we discuss the implications of our study, presenting the multifaceted ways in which migrants negotiate investment in language learning and digital connectivity.

## 2. Theoretical Framework: Connected Migrants and Linguistic Investment

This study integrates insights from digital migration studies (Diminescu, 2008, 2020) and sociolinguistic theories of investment in language learning (Norton, 2000, 2013) to explain how global connectivity reshapes migrants' engagement with small-language contexts. Rather than treating digital connectedness as either an obstacle to or a facilitator of inclusion, the framework conceptualizes it as a reality that reconfigures linguistic investment, especially in small-language contexts.

### 2.1. *Connected Migrants*

The digitalization of everyday life has fundamentally altered the experience of migration. Diminescu (2008, 2020) conceptualizes connected migrants as individuals who sustain social, cultural, and emotional ties across borders through digital media. Migration, in this view, does not entail a clear rupture between origin and destination. The emerging research field of digital migration studies scrutinizes how, while technology and migration have for a long time been discussed separately, these areas are in fact intertwined and "migration in its essence is fundamentally co-shaped by media technologies" (Leurs, 2023, p. 6). Leurs and Ponzanesi (2018) suggest that the concept of "connected migrant" reframes cosmopolitanism as an everyday, "banal" practice through which the rigid distinctions between online and offline, local and global, encapsulation and cosmopolitanization can be overcome. Communication today moves across online and offline spaces, as for example shown in Lyons and Tagg's (2024) study of Polish migrants living in London, finding that mobile messaging functions as a space where migrants share information but also align expectations and viewpoints as a means of preparation for an offline meeting. Empirical research shows that migrants' digital connectedness can coexist with, and even support, local participation and migrants' well-being by providing emotional support, information, and coping resources in unfamiliar environments, enabling everyday interaction in familiar languages and social contexts (Hoffmann et al., 2022; Hofhuis et al., 2019; Smahina, 2026).

## **2.2. Investment in Language Learning**

Norton's (2000, 2013) concept of investment shifts attention from individual motivation to the social and structural conditions of language learning. Rather than asking whether learners are motivated (Dörnyei, 2009), the notion of investment foregrounds how expectations of symbolic or material returns, such as employment opportunities, social recognition, or a sense of belonging, shape the allocation of time, effort, and affective resources to language learning. Investment in language learning is thus contingent on access, power relations, and the perceived rewards of participation in specific social contexts. Motivation and investment are two distinct concepts: While motivation is a psychological construct that encompasses both conscious and unconscious factors, investment is primarily sociological and examines how histories, lived experiences, and social practices shape language learning (Darvin & Norton, 2021).

## **2.3. Connected Migrants and Investment in Language Learning**

We bring together the concepts of connected migration and linguistic investment to understand language learning in today's technological and digital realities. The intersection between digital transnational connectivity and linguistic investment remains underexplored. However, in a 2014 article, Darvin and Norton explore the pedagogical potential of building migrants' digital transnational connectivity as a resource for language learning. They write:

Digital storytelling, by allowing them to share their personal histories, their stories of migration and assimilation, and the material conditions of their lived experiences, holds great potential for enabling migrant learners to be fully invested in their transnational identities and to claim their right to speak. (Darvin & Norton, 2014, p. 55)

This theoretical synthesis of digital connectedness and linguistic investment provides the lens through which the present study interprets migrants' diverse orientations toward learning Icelandic. This theoretical framework helps us to conceptualize language learning as a strategic response to digitally mediated opportunity structures rather than as a linear outcome of motivation or integration pressure. For highly connected migrants embedded in English-speaking professional and transnational networks, the need to invest in Icelandic may be substantially reduced. For others, learning the local language is framed less as a functional requirement than as an ethical, symbolic, or affective act of belonging.

These dynamics produce variation that cannot be explained solely by individual motivation. Instead, differences in investment reflect migrants' positioning within global and local economies of language and value, including access to English-mediated workplaces, interactional norms, and transnational digital communities (van Tubergen & Kalmijn, 2009).

From this perspective, we hypothesize that digital connectedness reshapes, rather than simply diminishes, migrants' investment in the local language, showing that such investment is selective, situational, and contingent on perceived opportunities for use and recognition.

### 3. Literature Review: Prior Insights on Linguistic Investment of Digitally Connected Migrants in Small-Language Contexts

Research on language learning in small-language societies consistently shows that acquiring the local language is closely tied to social participation, employment, and a sense of belonging. In this article, small languages are understood as languages with comparatively few speakers and limited global reach (Hoffmann & Holm, 2025; Pöyhönen & Simpson, 2024). There are a few empirical studies examining migrants' digital practices or their language-learning experiences. However, the literature review reveals a lack of studies on how digital connectivity intersects with language learning in small-language contexts.

A key section of the literature on migrants in small-language contexts highlights the structural importance of proficiency in the receiving country's language for labor market access and civic participation. Learning smaller languages can strengthen migrants' agency and inclusion in the receiving community (Higham, 2024). Reichenberg and Berhanu (2018), for example, show that in Sweden, language skills are critical for employment outcomes and that structured language training programs are essential for acquiring them. Skaptadóttir and Innes (2017) find that most individuals in Iceland learn Icelandic for instrumental reasons, and they "gain freedom in being able to communicate and understand what is happening around them in the country where they live" (p. 25). Thus, without sufficient proficiency in the receiving country's language, opportunities for stable employment, social connections, and active civic participation remain constrained for most migrants. Migrants learning minority and small languages can also play a crucial role in language revitalization efforts, as has been shown in studies in Ireland and Wales (Flynn, 2024; Higham, 2024).

Other studies on digital connectivity among migrants in small-language environments emphasize the role of social environments in shaping language-learning trajectories. Van Tubergen and Kalmijn (2009) demonstrate that ethnic and linguistic networks can both facilitate and hinder host-language acquisition, depending on whether they provide opportunities for practice or reduce exposure to the local language. A recent study in Finland highlights that highly connected migrants often navigate between these dynamics, using digital platforms to maintain ties to people from their country of origin while also using digital spaces to construct belonging in their place of residence through meaning-making around work (Smahina, 2026). This study demonstrates that digital platforms allow migrants to negotiate identity and community belonging while managing emotional well-being (Smahina, 2026). Similarly, Cicénaitė and Loftsdóttir's (2024) recent research on Lithuanians in Iceland underscores that digital tools facilitate social engagement, providing both emotional and practical support. During the Covid-19 pandemic, digital spaces enabled discourses outside official state institutions and strengthened multiple dimensions of civil society (Cicénaitė & Loftsdóttir, 2024).

A third section of the literature on digitally connected migrants in small-language contexts shows that language learning often serves not only as a practical requirement but also as a symbolic marker of inclusion (Holm, 2023). In her research on the Faroe Islands, Holm (2023) emphasizes that adult migrants' multilingual practices are deeply intertwined with social identity and community participation. Learning Faroese, for example, is not only a practical necessity but also a symbolic act of becoming a "new speaker" within local society, highlighting the interplay between linguistic competence and social belonging (Holm, 2023). Hoffmann and Holm (2025) show that migrants in small-language contexts hold a spectrum of ideologies, ranging from linguistic purism to English as a lingua franca.

A fourth section of the literature discusses how migrants in smaller language communities might retreat from or disinvest in the language. When interlocutors readily switch to English or another major language, when professional and social life can be conducted largely in English or another major language, or when migrants face uncertainty of how long they'll be able to reside in a country, the perceived return on investing in small, local languages may diminish, regardless of individual motivation (Szabó, 2024). In his study of Hungarian adult migrants to Catalonia, Gergely Szabó describes the phenomenon of their unwillingness and refusal to learn Catalan as “diasporic boundary maintenance.”

Overall, existing research highlights that language learning among highly connected migrants in small-language societies cannot be explained by individual motivation alone. Linguistic investment is shaped by structural conditions, such as access to training, labor market opportunities, language ideologies, and relational factors. Digital connectivity alters how migrants balance engagement with local linguistic environments against participation in transnational social worlds.

## 4. Methodology

### 4.1. Research Design

This study adopts a mixed-methods design, combining a large-scale survey with in-depth qualitative interviews. The survey provides patterns of language use, transnational ties, and social participation, while the interviews offer insight into how migrants interpret these conditions and negotiate language learning. Together, the two components enable an analysis that links structural patterns to migrants' lived experiences.

### 4.2. Quantitative Survey

The quantitative component of the study draws on an online survey administered to migrants in Iceland in 2018 ( $N = 2,211$ ). The survey was distributed through convenience and snowball sampling at language schools, via social media. To reach out to groups that are less likely to participate in surveys, in some regions, local assistants with strong ties to migrant communities were hired to encourage migrants' participation. It was made available in eight languages commonly spoken by migrants in Iceland at the time—Icelandic, English, Polish, Lithuanian, Latvian, Arabic, Russian, and Thai—and was coordinated by the University of Akureyri Research Centre (RHA). Upon opening the survey, each participant could select their preferred language.

Participants received written information about the study and provided informed consent. No personal identifiers were collected, and given Iceland's small population, additional safeguards were applied, including recording regions of origin rather than specific countries. The survey collected data on demographic characteristics, educational and occupational background, self-assessed proficiency in Icelandic and English, language use across different contexts, participation in language courses, and the use of digital media for communication and information. It also included indicators of social inclusion, such as trust in institutions, community engagement, and perceived discrimination.

Descriptive statistical analyses were used to examine patterns and associations between language practices, language ideologies, and digital connectivity. These descriptive findings informed both the sampling strategy and the thematic focus of the qualitative interviews.

#### 4.2.1. Measurements

Media and social media use were measured using three survey items capturing migrants' transnational and co-ethnic digital connections. Following established distinctions in the literature, two items assessed home-country media use, defined as engagement with media and social contacts in the country of origin (Yin, 2013), while one item measured ethnic media use, referring to interaction with people from the same country of origin residing in Iceland (Yin, 2013). Respondents were asked how frequently they followed or interacted with people from their country of origin on social media, how often they engaged with compatriots living in Iceland, and how frequently they consumed news or current affairs media from their country of origin. Responses were recorded on a five-point scale ranging from *never or almost never* to *every day or almost daily*. Self-reported Icelandic proficiency was measured by asking participants to rate their ability in Icelandic. Responses were recorded on a five-point scale ranging from *do not speak it* to *fully proficient*. Attitudes toward learning the local language were measured using the statement: "Immigrants who come to live in our municipality should learn Icelandic"; responses were recorded on a five-point scale ranging from *agree totally* to *disagree totally*.

#### 4.3. Interview Data

The qualitative material consists of semi-structured interviews with 11 migrants in Iceland. Interviews were conducted in 2021 and lasted between 30 and 120 minutes each. Participants were recruited from the survey pool using purposive and snowball sampling to ensure variation in gender, country of origin, place of residence (rural/urban), and language learning experiences (some had received formal language training, others hadn't). The reason for this sampling strategy was that an open call for participants may have resulted in overrepresentation of migrants with a strong interest in learning Icelandic.

An interview guide developed by the research team structured the conversations while allowing flexibility to follow participants' individual experiences. Interviews addressed migrants' experiences of learning and using Icelandic, perceptions of language courses, motivations and challenges, social networks, and the role of English and digital media in everyday life.

Interviews were conducted in English (10) and German (1), recorded with participants' consent, and transcribed verbatim. They took place at locations chosen by the participants, including online, at cafés, and in quiet spaces on an Icelandic university campus. The analysis followed a thematic coding approach (Braun & Clarke, 2006) that combined inductive and deductive strategies. Initial open coding identified recurring themes related to language learning practices, barriers, and orientations toward Icelandic. These themes were subsequently examined in relation to established theoretical concepts from the language learning and migration literature. Through iterative coding and synthesis, five recurring orientations toward learning Icelandic were identified: enthusiastic integration-oriented migrants, pragmatic learners, frustrated learners, community-based learners, and globally oriented residents. This typology is not intended as a rigid classification but as an analytical tool for capturing variation in linguistic investment among digitally connected migrants. It highlights the interplay between digital connectedness, social positioning, and language investment, and provides a framework for interpreting both individual narratives and survey patterns. Triangulation between qualitative and quantitative data allows individual experiences to be situated within broader structural patterns of linguistic inclusion and exclusion.



## 5. Findings

The findings show that migrants' engagement with the Icelandic language is shaped by the interplay of digital connectedness, social positioning, and perceived necessity. Survey results indicate broad normative agreement that learning the local language is important (Norton, 2000, 2013). However, the qualitative interviews reveal substantial variation in how this expectation is interpreted and enacted in practice. Together, the findings demonstrate that agreement on the value of learning Icelandic does not uniformly translate into linguistic investment, but instead gives rise to diverse strategies of engagement, selectivity, and disengagement.

### 5.1. Survey Results

#### 5.1.1. Survey Participants

Table 1 provides information about participants' backgrounds.

**Table 1.** Survey participants by gender, age, and place of origin.

| Gender                       |                                                                |                              |                     |                             |         |
|------------------------------|----------------------------------------------------------------|------------------------------|---------------------|-----------------------------|---------|
| Female<br>1,465 (66.3%)      |                                                                |                              | Male<br>738 (33.4%) |                             |         |
| Age                          |                                                                |                              |                     |                             |         |
| 18–25 years<br>275 (12.4%)   |                                                                | 26–40 years<br>1,286 (58.2%) |                     | 41 or older<br>638 (28.9%)  |         |
| Region of origin             |                                                                |                              |                     |                             |         |
| Central or<br>Eastern Europe | Nordic<br>Countries,<br>Western<br>Europe, or<br>North America | Asia                         | Africa              | South or<br>Central America | Other   |
| 1,440 (65%)                  | 483 (22%)                                                      | 140 (6.5%)                   | 40 (2%)             | 34 (1.5%)                   | 67 (3%) |

#### 5.1.2. Digital Connections

Survey results indicate high levels of transnational digital connectivity. Nearly half of respondents (49.4%) reported being in contact with people from their country of origin on a daily or almost daily basis. Contact with compatriots living in Iceland was also common, with 33.6% reporting daily or near-daily interaction. In contrast, frequent contact with immigrants from other countries of origin living in Iceland was less common, reported by 20.8% of respondents (Table 2). Overall, the data suggest that many migrants maintain dense transnational and co-ethnic networks, while cross-national immigrant contact occurs less frequently.

**Table 2.** Frequency of contact on social media.

|                               | People from the same country as me | People from the same country as me, living in Iceland | Foreigners in Iceland, not from the same country as me |
|-------------------------------|------------------------------------|-------------------------------------------------------|--------------------------------------------------------|
| Every day or almost every day | 49.4%                              | 33.6%                                                 | 20.8%                                                  |
| Once or twice per week        | 24.4%                              | 25.4%                                                 | 20.2%                                                  |
| Once or twice per month       | 10.9%                              | 11.5%                                                 | 12.3%                                                  |
| Once per month                | 6.4%                               | 9.6%                                                  | 12.5%                                                  |
| Never or almost never         | 8.9%                               | 19.9%                                                 | 34.2%                                                  |
|                               | 100.0%                             | 100.0%                                                | 100.0%                                                 |

### 5.1.3. Self-Reported Icelandic Proficiency

Levels of self-reported Icelandic proficiency varied considerably (Table 3). Almost half of the respondents (46.1%) reported not speaking Icelandic or speaking it only poorly. By contrast, 29.3% described their Icelandic as rather good or fluent, while 24.7% evaluated their skills as neither good nor poor.

**Table 3.** Self-reported proficiency in Icelandic.

| Category             | N     | %     |
|----------------------|-------|-------|
| Don't speak it       | 280   | 12.8  |
| Rather poor          | 730   | 33.3  |
| Neither good nor bad | 541   | 24.7  |
| Rather good          | 435   | 19.9  |
| Fluent               | 206   | 9.4   |
| Total                | 2,192 | 100.0 |

### 5.1.4. Attitudes Towards Learning Icelandic

Despite variation in proficiency, normative support for learning Icelandic was high (Table 4). A clear majority of respondents (70.3%) agreed, to varying degrees, that immigrants who move to their municipality should learn Icelandic. At the same time, 18.8% neither agreed nor disagreed, and 10.9% expressed some level of disagreement. This pattern suggests a broad endorsement of Icelandic as a social norm, alongside a non-negligible degree of ambivalence or resistance.

**Table 4.** Attitudes towards immigrants learning Icelandic.

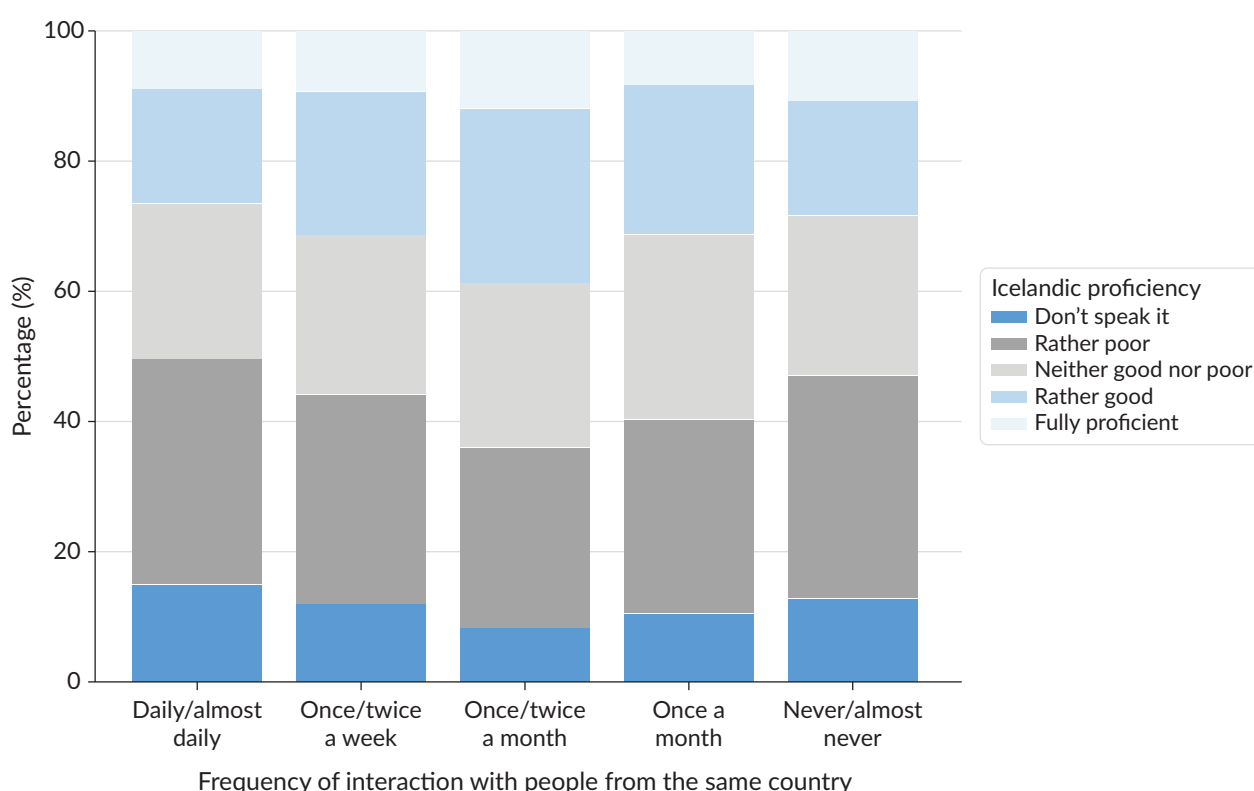
| Category                   | N     | %     |
|----------------------------|-------|-------|
| Fully agree                | 798   | 36.7  |
| Rather agree               | 729   | 33.6  |
| Neither agree nor disagree | 409   | 18.8  |
| Rather disagree            | 152   | 7.0   |
| Fully disagree             | 85    | 3.9   |
| Total                      | 2,173 | 100.0 |

### 5.1.5. Cross-Tabulation Analysis: Self-Reported Icelandic Proficiency and Frequency of Interaction

To explore the relationship between digital connectedness and language proficiency, we examined self-reported Icelandic proficiency in relation to the frequency of interaction with people from the same country of origin (Figure 1). The results indicate an association between intensive home-country contact and lower self-reported proficiency in Icelandic in our sample. Among respondents who interacted with compatriots daily or almost daily, a higher proportion reported not speaking Icelandic or speaking it rather poorly, compared to those with less frequent contact.

As the frequency of home-country interaction decreases, the distribution of Icelandic proficiency becomes more balanced, with larger shares reporting intermediate or higher proficiency levels. Notably, however, fluent Icelandic speakers are present across all categories of home-country contact, indicating that frequent transnational interaction does not preclude high levels of Icelandic competence.

These findings suggest that intensive transnational connectedness may be associated with lower host-language proficiency, while also highlighting substantial variation within each category. The results, therefore, point to a relationship shaped by factors beyond contact frequency alone, underscoring the need for qualitative analysis to understand how migrants interpret and negotiate language learning in conditions of digital connectivity.



**Figure 1.** Cross-tabulation analysis: Icelandic proficiency by frequency of home country contact; self-reported Icelandic proficiency (y-axis) and frequency of interaction with people from the same country of origin (x-axis). Notes:  $N = 2092$ ; percentages are row percentages.

## 5.2. Interview Results

The qualitative analysis identified five recurring orientations toward learning Icelandic: enthusiastic integration-oriented migrants, pragmatic learners, frustrated learners, community-based learners, and globally oriented residents. These orientations capture distinct ways migrants negotiate language learning at the intersection of local participation and global digital connectedness, illustrating how migrants balance normative expectations for learning Icelandic with the practical affordances of English and digitally mediated transnational networks. Rather than representing fixed categories, these categories reflect responses to differing opportunity structures and interactional experiences, which also change over time in migrants' language-learning journeys. Thus, while the quantitative data have indicated an association between language proficiency and the frequency of contact with immigrants' countries of origin, our analysis of interview data highlights factors informing the interview results. The sections that follow describe each orientation in turn.

### 5.2.1. Enthusiastic Integration-Oriented Migrants: Language as Belonging

Enthusiastic integration-oriented migrants view learning Icelandic as essential to social participation and belonging, echoing prevalent language ideologies (Hoffmann & Holm, 2025). Their orientation is closely aligned with Norton's (2013) depiction of investment as identity work. For these migrants, learning Icelandic is not primarily instrumental but rather a moral and affective commitment to understanding Icelandic culture and ways of seeing the world, rather than a technical skill. One interviewee perceived Icelandic as "the key to understanding Icelanders":

The Icelandic language is just a way to understand Icelanders, and I want to understand Icelanders to understand their culture, how they look at the world around them, and the nature, or like in the even in the political and economic way, it is all interesting for me, so I believe that this is the language is the key for understanding.

Another participant emphasized that living in Iceland without speaking Icelandic would severely constrain one's social life, describing language proficiency as fundamental to feeling socially embedded:

I think it is the most necessary part. I personally don't believe that you can be part of society without the language. But I also know that knowing the language wouldn't make you part of society, especially not in Iceland. I do feel quite comfortable, ahm, I know I wouldn't feel comfortable without speaking the language. I can't even, I really can't imagine my life living this safely without speaking the language, I just don't know how it would work. I feel it will put you in a very very little world even. And will limit your life.

Enthusiastic integration-oriented migrants actively seek opportunities to use Icelandic, combining formal instruction and informal interaction. Several participants described the language as "beautiful" and expressed pride in using it:

I learned Icelandic when I first came here....I always thought it was a very beautiful language, and uh, I just was very eager to practice and talk it, so I wasn't very shy, I wanted to, just, go out in the world

and just speak Icelandic. And I had like a big motivation because I thought it was beautiful, and I really like languages as well.

Digital connectedness does not undermine this orientation. Instead, transnational ties coexist with a strong commitment to local linguistic participation and Icelandic media. Digital learning tools are used to support language acquisition, and digital connectivity serves as a resource for language learning. For example, some interviewees either started learning Icelandic online before arriving or left Iceland temporarily and continued studying the language online. This orientation thus demonstrates that high levels of digital connectivity are not inherently incompatible with intensive investment in language learning (Lyons & Tagg, 2024).

### 5.2.2. Pragmatic Learners: Language as a Tool

Pragmatic learners approach Icelandic primarily as a functional tool for complying with institutional or occupational demands. Their orientation corresponds closely to what Gardner and Lambert (1972) describe as instrumental motivation. One participant explained that, while he was initially not motivated to learn Icelandic, a job offer motivated him to learn the language:

I never really learned Icelandic in [language] school. I hardly learned anything there....I never feel like I need to learn Icelandic, but it would be fun just to learn a little bit things like *góðan daginn* [good day] and *takk fyrir* [thank you] just, like, little bit a nice touch to speak up a little bit during the shopping, but when I got a job offer in 2020 last year, my boss just told me that I have to speak Icelandic and I had to also read report in Icelandic as well.

Several interviewees, as the one cited above, described limited engagement with Icelandic until external requirements made it necessary. In this sense, investment is reactive rather than aspirational. In survey responses, this group aligns with migrants who reported using Icelandic primarily in professional contexts, while English dominates informal and social interactions. Pragmatic learners thus often draw clear boundaries between linguistic domains. One interviewee working in a kindergarten emphasized that English was preferred for urgent or complex communication to avoid misunderstandings, and questioned expectations to speak Icelandic during breaks:

If there is something really urgent and important, I prefer them [coworkers] to say it in English so we are on the sure side and I don't have a problem with that. But then, at the cafeteria, for example when we are just drinking coffee or something, I don't see why the conversation could not be in English as well. It's not for work. I have a...she works in an international environment, but she has been told from the older colleagues, Icelandic colleagues, that they are now in Iceland and she should speak Icelandic. And she is having argument with them like "Why? This is our free time. I am not at work, we can speak in whatever language we want, this is our free time."

This account illustrates how language choice is negotiated in relation to relevance and fairness. Digital connectedness reinforces this selective investment. English-mediated workplaces and transnational professional networks reduce dependence on Icelandic beyond specific institutional contexts, while digital resources provide practical support for learning when needed. For pragmatic learners, investment in Icelandic remains contingent on utility, making language learning a situational response to concrete demands rather than a sustained project of integration.

### 5.2.3. Frustrated Learners: Language as Exclusion

The frustrated or discouraged learners embody a notion of limited investment (Norton, 2000). Although they may begin with motivation, their enthusiasm diminishes due to negative experiences: repetitive teaching, scarce opportunities for practice, or Icelanders frequently switching to English. Several interviewees reported feelings of anxiety, embarrassment, or infantilization when speaking Icelandic and described feeling excluded from conversations or workplaces.

One participant, who had lived in Iceland for two decades, reflected on early experiences of being perceived as speaking “like a child,” which discouraged spontaneous use of the language:

Like when my pronunciation is not right. There were different people and then what struck me is that I talk Icelandic like a child. I should have spoken Icelandic spontaneously because it's part of the learning process. I didn't know back then....It stopped when I started to speak Icelandic well. People started to appreciate my Icelandic skills.

Importantly, this participant noted that social recognition emerged only after her proficiency improved, suggesting that appreciation was conditional on near-native performance rather than on effort or participation. This can be explained by investment theory, which “recognizes that even though one can be ready and willing to participate in L2 contexts, one can be refused entry into these spaces or positioned as inadequate” (Darvin & Norton, 2021, p. 32). In the case of the person cited above, this dynamic delayed active language use and contributed to prolonged insecurity.

For frustrated learners, the problem is not a lack of motivation but the absence of supportive interactional environments that validate partial competence. Frequent recourse to English further reduces opportunities to practice Icelandic, while simultaneously offering an exit from uncomfortable encounters. Interactions in which Icelanders switch to English illustrate power relations and, as investment theory emphasizes, that learners are not always able to shape or determine the conditions in which their language learning takes place (Darvin & Norton, 2021).

This orientation highlights how limited language acquisition can result from social and structural conditions and inequalities rather than individual deficits (Darvin & Norton, 2015, 2021). Frustrated learners thus expose the relational dimensions of linguistic investment, showing how recognition, patience, and access to meaningful interaction are crucial for sustaining migrants' investment in language learning.

### 5.2.4. Community-Based Learners: Language(s) as Connection

Community-based learners prioritize social connection over grammatical mastery. Rather than viewing language learning as a classroom-based process, they acquire Icelandic primarily through everyday interaction and immersion in social contexts. This orientation resonates with Lave and Wenger's (1991) theory of communities of practice, in which learning occurs through participation in shared activities rather than through formal instruction alone.

One participant explained that, after initially working with a book for learning Icelandic, continued progress felt more effective through “just speaking,” listening to Icelandic media, and engaging with others in everyday settings. Materials such as children’s books, audiobooks, and films were mentioned as accessible entry points that supported comprehension without the pressure of formal correctness:

Researcher: And yes, have you attended any type of formal language education in Icelandic?

Interviewee: No, no, unless we consider the [book] *Íslenska fyrir alla*....I enjoyed it a lot; it was very fun to go through....I don’t know why I dropped it. I guess I felt after the first book it was more efficient to go on my own, you know, just speaking and so. And also listen to things in Icelandic....Mostly children material though. Movies and stuff like that in Icelandic.

Community-based learners frequently emphasized that “using the language” mattered more than speaking it accurately. They advocated for conversational groups and informal social settings as spaces where partial competence is accepted and encouraged. For these migrants, digital connectedness plays a supportive but secondary role. Online platforms facilitate contact with other learners and Icelandic speakers and help sustain social networks. This orientation highlights a collaborative form of linguistic investment, in which learning Icelandic is embedded in social practice rather than pursued as an individual achievement.

#### 5.2.5. Globally Oriented Residents: Language as Optional

Globally oriented residents approach learning Icelandic as an optional investment rather than a necessary condition for participation or a sign of a lack of motivation (Dörnyei, 2009). These migrants recognize the symbolic value of Icelandic but see limited practical or personal returns given their professional trajectories, anticipated length of stay, and reliance on English-mediated environments.

Most globally oriented residents work in international or English-speaking settings and maintain strong transnational digital ties. Their narratives strongly reflect common narratives of neoliberal governments constituting them as “subjects whose life trajectory is shaped by the imperatives of a labour market in which they will become mobile and flexible workers with multiple careers and jobs” (Bansel, 2007). Interviewees often described initial efforts to learn basic Icelandic upon arrival, followed by a decline in investment as professional demands intensified and English proved sufficient for everyday functioning. One highly educated professional noted that while an introductory Icelandic course was useful, sustained engagement was difficult to justify amid work pressures and short-term plans:

When they hired me, I tried to check out some Icelandic just to arrive here, some sentences and some phrases....I joined a course at the university, it was just one semester for Icelandic, and it was quite useful....I haven’t been so much into Icelandic because I have been busy.

Importantly, this orientation does not reject Icelandic in principle. Several interviewees explicitly distinguished their own situation from that of long-term residents, emphasizing that learning Icelandic would become essential if they planned to remain in Iceland permanently. As one participant said:

I think Icelandic is useful for people that are going to stay here, that plan to stay here for long time, if not then it is not that useful, but the basics are always good so you have to know some basics.



Another participant emphasized that the decision to stay “for the rest of my life” would warrant a serious investment in the language. In this sense, disengagement is conditional and temporal rather than ideological. The participant said: “If I decided, ‘Oh my god I want to be in Iceland for the rest of my life,’ then I would just really like to put my effort into this and like learn it by myself.”

For globally oriented residents, digital connectedness reinforces a cosmopolitan mode of belonging that transcends local linguistic boundaries. English and digital infrastructures enable professional participation and social life without sustained engagement with Icelandic, making language learning a strategic choice. This orientation exemplifies how global mobility and small-language environments interact to produce selective disinvestment. Across the five orientations, digital connectivity emerges as both an enabling and constraining condition for linguistic investment. The Icelandic case illustrates how the coexistence of a small national language and a dominant global lingua franca reshapes traditional models of integration. Learning Icelandic is no longer a uniform prerequisite for social participation, but a selective and strategic choice shaped by migrants’ social positioning, anticipated futures, and access to English-mediated networks. These findings underscore that language learning among connected migrants cannot be understood solely through motivation, but must be analyzed through the lens of investment, encompassing emotional, symbolic, and structural dimensions.

## 6. Discussion and Conclusions

This study examined how migrants in Iceland negotiate language learning and social participation in the context of global digital connectedness. Drawing on Diminescu’s (2008, 2020) concept of the connected migrant and Norton’s (2000, 2013) notion of linguistic investment, we show how digital mobility reshapes the relationship between language learning and integration in a small-language context where English functions as a lingua franca. By combining survey data with qualitative interviews, we link broader patterns of digital connectedness and investment in language learning among migrants in Iceland to in-depth insights from migrants’ own accounts of their language-learning trajectories. Some participants with stable, skilled employment felt free to deprioritize Icelandic in the interviews, but those facing economic insecurity described the language as vital and framed their limited skills as a significant challenge.

The first research question we aimed to answer was: How is migrants’ degree of digital connectivity associated with their attitudes toward learning and investing in a small language? Our findings show that while most migrants normatively endorse the importance of learning Icelandic, with 70.3% of immigrants fully or somewhat agreeing that migrants who move to their municipality should learn Icelandic, actual investment in language learning is mediated by migrants’ social positioning, everyday linguistic environments, and plans for the future (e.g., whether they plan to stay permanently or temporarily in the country). These findings align with prior studies on adult migrants’ language learning in smaller language contexts (Higham, 2024; Holm, 2024; Skaptadóttir & Innes, 2017). Language learning, particularly in contexts where English or other languages are widely spoken, is a highly non-linear and situated activity. Individuals, despite normatively agreeing that language learning is important, might, for a multitude of reasons—such as perceived lack of return on investment, unstable residency, and plans to move to another place in the future—not invest fully in the language of their place of residence (Holm, 2024; Pöyhönen & Simpson, 2024; Szabó, 2024).

A pattern observed in the quantitative data is that those in daily or almost daily contact with people from their countries of origin report lower Icelandic proficiency than those in contact once or twice a week or once or twice a month. However, among those who are never or almost never in contact with people from their countries of origin, the number of people who report poor or weak Icelandic skills and fluent or good Icelandic skills is similar to the numbers reported by the group who are daily or almost daily in contact with their countries of origin. However, as these insights are based on descriptive analysis, they should be interpreted with caution.

To answer the second research question—How do digitally connected migrants narrate and negotiate their investment in the Icelandic language in everyday life?—our qualitative analysis identified five orientations toward learning Icelandic: enthusiastic integration-oriented migrants, pragmatic learners, frustrated learners, community-based learners, and globally oriented residents. Across these orientations, digital networks and English proficiency simultaneously facilitate participation and reduce the perceived necessity of Icelandic: Migrants embedded in English-speaking workplaces or transnational professional networks often perceive limited practical returns on learning Icelandic, whereas others associate language acquisition with social recognition, security, and emotional belonging. As shown in prior studies, migrants' online and offline encounters are linked, and participation in digital networks can facilitate offline encounters and help migrants prepare for them (Lyons & Tagg, 2024). These results, together with the quantitative analysis, support our central hypothesis that digital connectedness to countries of origin reshapes, rather than diminishes, linguistic investment by altering its perceived benefits.

Investment in language learning thus emerges as a selective and strategic practice rather than a uniform expectation, shaped by social involvement, linguistic attitudes, recognition, and anticipated futures (Norton, 2013). These findings challenge linear models of integration that equate linguistic assimilation with social participation. Rather than passive recipients of demands to integrate, migrants appear as agents navigating digital connectivity and local incorporation. Consequently, Icelandic constitutes one possible, but not universally required, resource for connection. From a policy perspective, this suggests that appeals to obligation or national identity alone are unlikely to sustain language learning. More effective approaches would link Icelandic acquisition to tangible opportunities for participation, such as workplace inclusion, civic engagement, and community-based interaction, while acknowledging the multilingual realities of contemporary migration. Furthermore, migrants' transnational digital connections can also be incorporated into language teaching to strengthen their confidence in learning (Darvin & Norton, 2014). At the same time, our analysis highlights stratified migration regimes and inequalities within the migrant population and how language functions as a tool of inclusion and exclusion (Darvin & Norton, 2021): Some migrants in more privileged positions, in stable, English-speaking jobs feel free to deprioritize learning Icelandic, while some in less stable jobs and those facing underemployment (working outside of their area of expertise) experience linguistic demands as a means of exclusion.

Our analysis of the Icelandic case highlights a structural dilemma faced by small-language societies in a globalized, digitally mediated world: how to sustain small languages when English enables access to global mobility and social participation. Belonging in digitally networked societies is continuously renegotiated through shifting combinations of languages, identities, and forms of social engagement. By exploring connected migrants' linguistic investments, this study reframes social inclusion as a situated process of ongoing negotiation rather than assimilation.

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### Conflict of Interests

The authors declare no conflicts of interests.

### Data Availability

The survey data used in this article are available in open access at <https://datice.is/is>

### LLMs Disclosure

We used ChatGPT and Grammarly minimally to refine language and phrasing. All substantive content, analysis, and interpretations were developed by the authors.

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### About the Authors



**Lara Wilhelmine Hoffmann** is a postdoctoral researcher at the University of Iceland and a research specialist at the University of Akureyri, Iceland, specializing in migration, language learning, cultural and artistic participation, and social inclusion.



**Markus Meckl** is a historian and professor at the University of Akureyri, specializing in memory studies, migration research, and public commemoration. His work examines Holocaust memory, victimhood, social change, and immigrant integration in Iceland.

# Digital Bridges and Social Ties: Middling Migrants' Telework Experiences Across the Covid-19 Pandemic

Rosária Ramos  and Sónia P. Gonçalves 

Centro de Administração e Políticas Públicas, Instituto Superior de Ciências Sociais e Políticas, Universidade de Lisboa, Portugal

**Correspondence:** Rosária Ramos ([rrosos@iscsp.ulisboa.pt](mailto:rrosos@iscsp.ulisboa.pt))

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## Abstract

The Covid-19 pandemic accelerated digital work practices and reshaped the professional and social lives of highly skilled middling migrants. While research has assessed telework during the crisis, less is known about how digitally mediated work experiences evolved across the pre-pandemic, pandemic, and post-pandemic phases, and how those experiences influenced social ties, mobility opportunities, and institutional engagement. This study explored these dynamics using 23 semi-structured interviews with Portuguese and Brazilian teleworkers employed by globalized firms, reviewing their telework experiences across all three phases. The findings reveal that digital mediation served as a double-edged sword: It acted as a bridge to transnational networks, while simultaneously limiting local integration and profound relationships. Comparative analysis between middling migrants and non-middling migrant teleworkers demonstrates that the pandemic intensified the ambivalence of the middling condition, transforming the workplace social ties and anchoring professionals' sense of belonging to digital visibility. In the post-pandemic landscape, telework has solidified into a stratified practice, facilitating stable digital inclusion for some while entrenching the peripheral status of others. This article contributes to theories of middling migration and digital transnationalism by introducing the concept of differential digital permeability, where the effect of digital tools varies according to geographical and biographical positioning. It concludes with implications for corporations operating across national contexts, highlighting the need for policies that foster genuine inclusion in hybrid work environments.

## Keywords

middling migrants; post-pandemic work; social ties; telework

## 1. Introduction

Technology has long shaped how work is performed, making it a central concern in the sociology of work (Edgell et al., 2015; Edwards, 2014). Developments in digital and networked systems have extended this influence beyond industrial labor to the service and knowledge sectors, enabling the globalization of work while intensifying power, inequality, and relational dynamics issues (Fussey & Roth, 2020; Lupton, 2015; Marres, 2017). These dynamics became especially visible during the Covid-19 pandemic, since they forced organizations across different sectors to adopt telework at an unprecedented scale, profoundly altering everyday work interactions, visibility, and the boundaries between professional and personal life (Labrecque et al., 2023; Mullins et al., 2022). While telework was previously concentrated in information and communication technologies (ICT)-related and highly educated occupations (Haider & Anwar, 2023; Milasi et al., 2021), the pandemic transformed it into a generalized and lasting mode of work, reshaping not only work organization but also the formation, maintenance, and experience of workplace relations.

Research on migration and mobility has long emphasized the role of social ties in facilitating employment and settlement, including among skilled migrants (Barwick, 2022). Much of this literature, however, has focused on low- and medium-skilled migrants, highlighting the instrumental role of strong ties and ethnic networks in labor market entry and integration (Avalos, 2019; McCollum & Apsite-Berina, 2015). Although social ties are also crucial for middling migrants, existing research suggests that these migrants often face particular challenges in developing meaningful personal relationships at work, despite relatively easier access to professional networks (Habti, 2021). What remains underexplored is how these dynamics unfold under conditions of telework, particularly during and after the Covid-19 pandemic, and how digitally mediated work reshapes both professional and personal workplace relationships, with consequences for social inclusion and mobility.

These developments point to the need to examine telework not merely as a technological or organizational arrangement, but as a social process that reshapes workplace relationships under conditions of digitally mediated interaction. This is particularly relevant for middling migrants, whose professional trajectories and social embeddedness are already characterized by structural ambivalence and constrained opportunities for relational inclusion.

This article sustains that the telework experience of middling migrants during the Covid-19 pandemic ought to be reviewed at the intersection of their structurally ambivalent position in transnational labor markets, the dual nature of their workplace social ties (instrumental networks versus relational embeddedness), and the forced digital mediation of all workplace interactions. Focusing on the social ties, we assess how the collapse of physical co-presence reconfigured the possibilities for building and maintaining close, meaningful, and trust-based professional relationships, identity formation, and personal well-being; we further question whether digital tools bridged relational gaps or exacerbated the existing insecurities of the middling condition.

In this article, telework is understood broadly as a set of ICT-enabled work arrangements in which tasks are performed outside the employer's premises, encompassing hybrid, mobile, and cross-border forms of work (Bailey & Kurland, 2002; Di Martino & Wirth, 1990). This conception includes, but is not limited to, remote work arrangements in which employees are not expected to maintain regular physical presence in a central workplace (Pfeffer & Baron, 1988).



Building on this analytical perspective, this article investigates how telework across the Covid-19 pandemic reshaped the workplace social relationships and the meanings attached to them by teleworkers, including current and pre-pandemic middling migrants. Drawing on in-depth interviews conducted across the three pandemic phases, we assess how digitally mediated work both enables and constrains relational practices in the workplace. The analysis draws on interviews performed with Portuguese and Brazilian professionals employed in firms operating across multiple national contexts. These cases provide an analytically coherent setting for assessing digitally mediated work and mobility, considering that participants are embedded in transnational labor markets and professional circuits that structure everyday practices across national boundaries; in addition, the participants shared a common language that enabled interviews to be conducted in Portuguese. This article provides empirically qualitative insights into how telework transforms workplace interactions, particularly for professionals with middling migration experience. Theoretically, it advances debates on the social meaning of work and relational sociology by foregrounding the interpretative dimensions of digitally mediated workplace ties. From a policy perspective, the article highlights how organizational and mobility policies intersect with telework practices, shaping the relational inclusion of middling migrants in transnational labor markets.

## 2. Literature Review

### 2.1. *Middling Migrants, Skilled Mobility, and Social Ties*

Middling migrant research can be situated within the broader transnationalism literature, which conceptualizes migration as being embedded in sustained cross-border ties and practices (Schiller et al., 1992, 1995). It aligns with Faist's notion of transnational social spaces, emphasizing the networks and institutions that connect migrants across borders and give continuity to their lives despite territorial dispersion (Faist, 1998, 2000). While the concept of middling migration has been used in different ways across the literature (Robertson, 2021), it points to migrants whose mobility cannot be reduced only to an economy-induced displacement, since it involves socially and relationally embedded aspirations and practices in transnational contexts.

In this article, middling migrants are understood as tertiary-educated professionals who navigate global labor markets outside the protected circuits of corporate expatriates or the most precarious segments of low-skilled migration. This group is characterized by structural ambivalence: They possess significant cultural capital and agency, yet experience professional insecurity, conditional integration, and a precarious sense of belonging (Ang, 2023; Skey, 2018). Although their mobility is frequently motivated by career advancement and lifestyle aspirations (Barwick, 2022), they encounter systemic barriers such as the devaluation of foreign credentials and deskilling, leading to differentiated inclusion (Mendoza, 2022; Yang, 2022). This condition positions them in an in-between space, across uneven transnational socio-economic structures (Ang, 2023), where their professional trajectories are uncertain and their social integration is often partial.

In this framework, social ties are understood as a critical resource. The literature on skilled and middling migration has predominantly addressed these ties through an instrumental lens, framing them as professional networks that facilitate labor market entry, provide local knowledge, and help navigate bureaucratic systems (Barwick, 2022; Conradson & Latham, 2005). This perspective aligns with broader migration studies that highlight the role of strong ties and ethnic networks to help settlement (Avalos, 2019; McCollum & Apsite-Berina, 2015). For middling migrants, however, the picture is nuanced. While they may

have relatively easier access to professional networks, research suggests they often face significant challenges in developing deeper, meaningful personal relationships at work, which are crucial for a sense of embeddedness and belonging (Habti, 2021). This condition points to an existing gap between instrumental connectivity and relational integration.

The relational and affective dimensions of social ties, the informal collegiality, mentorship, and everyday workplace personal interactions that foster professional identity and emotional support remain underexplored in the middling migration literature. These dimensions constitute what can be termed relational embeddedness, which is vital for understanding one's position and well-being in a new society, especially for those in ambivalent social positions (Skey, 2018). The pandemic-induced shift to telework represents a critical juncture for examining this gap. By relocating the workplace to home or other settings, telework disrupted the primary site where both instrumental networking and the gradual cultivation of relational ties typically occur. This forced a near-total reliance on digital mediation for workplace interactions.

Concurrently, migration research has undergone a digital turn, assessing how ICT fundamentally reshapes transnational social fields and everyday practices. Rather than simply facilitating connectivity, digital tools restructure how migrants maintain intimate familial bonds, access diaspora communities, and navigate host societies, creating hybrid spaces that blur boundaries between here and there (Brandhorst, 2024; Marques & Calla Jesús, 2025). For middling migrants, digital tools are an integral part of their professional life (e.g., LinkedIn) and personal connectivity; however, digital effects are uneven, conditioning not only participation but also the quality and depth of social relations. The pandemic acted as a powerful accelerant of this digital mediation, making it the primary infrastructure for work and social interaction; it also helped to raise questions about how digitally mediated environments reconfigure relational embeddedness under conditions of unequal positioning.

Building on the debates in digital inequality, this article introduces the concept of differential digital permeability to capture how digital tools generate uneven effects across migrant populations. Rather than operating through a binary logic of access or exclusion, digital technologies permeate working lives to varying degrees, shaped by the intersection of geographical positioning and biographical trajectories. The same technology may therefore profoundly reshape some migrants' work trajectories while remaining marginal to others, even under similar conditions of use.

Differential digital permeability foregrounds the contingent and situated nature of digital mediation in migration experiences. While research on digital inequality evidences disparities in access, skills, and outcomes (Hargittai, 2002; van Dijk, 2005), and platform hierarchy approaches highlight power asymmetries embedded in platform architectures (Schor et al., 2020; van Doorn, 2017), differential digital permeability shifts attention to how digital tools are unevenly absorbed into migrants' lives.

The literature reviewed supports a conceptual framework that links the structurally ambivalent position of middling migrants, the dual character of workplace social ties, and the reconfiguring effects of digital mediation. Rather than treating telework as neutral, the framework conceptualizes digitally mediated work as a relational process that can re-stratify access to social connections across migrant trajectories. From this perspective, digitally mediated work is expected not only to redistribute opportunities for connectivity, but also to intensify the ambivalent position of middling migrants by unevenly reshaping access to relational resources at work.

## ***2.2. Middling Migrants' Telework Before, During, and After the Pandemic***

The evolution of telework has been closely intertwined with the rise of the knowledge economy and advancements in digital infrastructure, gradually transforming organizational structures and individual work aspirations (Schweitzer & Duxbury, 2006). Prior to 2020, telework remained a niche practice, predominantly adopted in sectors like ICT, consultancy, and education, and was often adopted based on issues of flexibility, work–life balance, and the challenges of maintaining productivity and collaboration at a distance (Di Martino & Wirth, 1990; Schweitzer & Duxbury, 2006).

The pandemic triggered a forced, large-scale shift to teleworking across knowledge-based and service sectors, abruptly transforming it from a selective arrangement into the primary mode of work for millions of professionals globally. This shift generated a surge of research, through the lenses of productivity, wellbeing, work–life balance, and communication (Ameen et al., 2023; Criscuolo et al., 2023; Giauque et al., 2022; Labrecque et al., 2023). Crucially, studies began to reveal how the specific conditions of pandemic lockdowns, such as restrictions on mobility and social contact, fundamentally altered the experience of telework, intensifying issues of fatigue, isolation, and the blurring of boundaries (Bennett et al., 2021; Parra et al., 2022; Shockley et al., 2021). Related research has also shown that the rapid expansion of telework during the pandemic exacerbated existing migrant inequalities, particularly through unequal access to digital infrastructures and markets (Andrejuk, 2022). Research also highlighted the critical role of digital tools, not only for task performance, but also for sustaining a sense of connection and belonging. In this regard, videoconferencing fatigue emerged as a distinct phenomenon linked to the quality of mediated interaction (Bennett et al., 2021). During the pandemic, telework also drew attention to digital nomads, workers who combine remote employment with cross-border mobility. Although often portrayed as flexible and privileged, digital nomadism is uneven and shaped by legal, class, and gendered constraints (Cook, 2023; Mancinelli, 2020). The telework literature provides context for mobile, digitally mediated work without conflating it with middling migrants' experiences.

In the post-pandemic period—defined here as beginning with the World Health Organization's 5 May 2023 declaration of the end of the Covid-19 global health emergency—telework has become a consolidated, hybrid feature of many knowledge economies. Early post-pandemic research indicates a legislative and organizational telework normalization; companies' employees actually perceived benefits from these changes (Türkeş et al., 2024). However, empirical studies capturing longitudinal experiences across all three pandemic phases—before, during, and after the pandemic—remain scarce. This gap is significant, as it limits our understanding of the long-term, transformative effects of this shift in work practices, relational dynamics, and employees' behavior.

For middling migrants, this telework trajectory intersects with their specific vulnerabilities and social dynamics in profound ways. The pre-pandemic telework niche status likely meant that only certain privileged professionals within this group had access to such arrangements. The pandemic's widespread and, in some sectors, compulsory shift to telework suddenly placed all middling migrants in a digitally mediated work environment, irrespective of their industry or seniority. This involved displacing the workplace from the office, which was a key site for informal networking and relational embeddedness (crucial yet often challenging for this group to establish), to home or other locations (Habti, 2021). Consequently, the pandemic-era research themes of digital fatigue, isolation, and the struggle for effective communication and

belonging take on heightened significance for migrants already navigating an ambivalent position in the labor market and society (Ang, 2023; Skey, 2018).

Therefore, this article positions middling migrants' telework experiences within this three-phase chronology, assessing how the sudden shift to, and subsequent evolution of, digitally mediated work reconfigured the social fabric of their professional lives. By comparing experiences across these phases, the study aims to disentangle the effects of telework as a work arrangement from the unique circumstantial pressures of the pandemic crisis. This allows for a nuanced analysis of whether digital tools ultimately acted as "bridges" that helped sustain and even forge the instrumental and relational ties vital for middling migrants, or as barriers that exacerbated their professional insecurities and social isolation in a transnational context.

### 3. Methods

This study employs a qualitative, retrospective design based on in-depth semi-structured interviews. This approach was chosen to reconstruct and compare how middling professionals experienced and ascribed meaning to their workplace's social relationships across three distinct temporal phases: before, during, and after the acute phase of the Covid-19 pandemic. The design uses retrospective accounts to trace perceived transformations in relational practices, digital mediation, and professional belonging, allowing an analysis of how telework normalization reconfigured work's social fabric for individuals in different positions within global labor flows. A purposive snowball sampling strategy (Bryman, 2012) was used to recruit participants. The inclusion criteria required participants to be Portuguese or Brazilian professionals, to have worked in globalized firms (defined as multinational corporations or firms with a significant international clientele/team structure), and to have experienced teleworking from home before, during, and after the Covid-19 pandemic. The study was originally designed to examine telework trajectories across the Covid-19 pandemic rather than migration per se. Migration status was not an inclusion criterion, but emerged inductively from the sample, enabling a comparative analysis of how digitally mediated work intersects with different geographical locations and biographical trajectories. A total of 23 participants were interviewed, a sample size sufficient to reach thematic saturation.

The sample was analytically organized ex post to reflect a spectrum of middling trajectories: professionals based in their home country (Portugal or Brazil) with no migration experience ( $n = 13$ ), professionals physically located abroad in a host country ( $n = 6$ ), and professionals based in their home country with significant past international work experience (defined as formal employment abroad for one year or more;  $n = 4$ ). Although small, this last group was included in this article to enrich the analysis of transnational careers and their relationship to digitally mediated work.

This structure facilitates a comparative examination of how the middling condition, characterized by the ambivalence of professional privilege and insecurity, is experienced from different geographical and biographical positions. It implements the concept of differential digital permeability by assessing how telework is unevenly absorbed into everyday work practices and relationships, reshaping physical migration for career advancement. The inclusion of both Portuguese and Brazilian professionals provides insight into shared yet differentiated positioning within global labor markets and transnational professional circuits. The participants' characteristics are summarized in Table 1.

**Table 1.** Sample characteristics.

| Characteristic     | Category                                           | n (%)      |
|--------------------|----------------------------------------------------|------------|
| Nationality        | Brazilian                                          | 14 (60.9%) |
|                    | Portuguese                                         | 9 (39.1%)  |
| Current location   | Home country (no migration experience)             | 13 (56.5%) |
|                    | Currently abroad                                   | 6 (26.1%)  |
|                    | Home country (with past international experience)* | 4 (17.4%)  |
| Sex                | Female                                             | 11 (47.8%) |
|                    | Male                                               | 12 (52.2%) |
| Current occupation | ICT                                                | 9 (39.1%)  |
|                    | Management/Consulting                              | 8 (34.8%)  |
|                    | Commercial/Sales                                   | 3 (13.0%)  |
|                    | Human Resources/Communication                      | 3 (13.0%)  |

Note: \* Participants in the past-international experience category were residing in their home country at the time of the interview but had prior international work or migration experience.

Data were collected between April and July 2023 through online semi-structured interviews conducted via Zoom; each interview lasted approximately 90 minutes. Given the retrospective focus, the interview guide incorporated timeline and critical incident techniques to aid in the reconstruction and to mitigate recall bias. The guide explored: (a) practical details of the participants' telework setup and daily routine before, during, and after the pandemic; (b) their views on company rules and their managers' approaches to telework in each phase; and (c) the difficulties they faced, the solutions they found, and how their overall feelings about telework changed over time. The guide had been pilot-tested with two professionals meeting the sample criteria and revised based on their feedback. All participants provided audio-recorded informed consent at the interview outset, and a subsequent signed electronic consent form.

The study complied with the ethical standards of the American Psychological Association (2017). The institutional ethics committee determined that the investigation bore minimal risks and waived the requirement for a full formal submission. Confidentiality was ensured by using anonymized codes (e.g., P1, P2) in transcripts and reporting; raw data access was restricted to the research team.

Interviews were transcribed verbatim and reviewed using reflexive thematic analysis (Braun & Clarke, 2006). The process involved (a) deep familiarization with the data; (b) inductive generation of initial codes focused on social interactions, technology use, and feelings of (dis)connection; (c) development of candidate themes by collating codes and examining patterns across the three temporal phases and three sample groups; and (d) iterative review and refinement of themes. The MAXQDA 24 software supported data organization and coding. To enhance rigor, the research team engaged in collaborative coding discussions and maintained reflexive memos to document interpretive decisions.

## 4. Results

The analysis of the professionals' telework experience reveals how the pandemic-induced shift to telework reconfigured the social and relational dimensions of their careers. In this section we trace how differential

digital permeability is expressed across groups, since the same digital infrastructure was absorbed into the individuals' working domains with unequal consequences depending on the participants' geographical location and biographical trajectories. The findings were structured considering the participants' experience before, during, and after the pandemic, comparing home-based participants ( $n = 13$ ), abroad-based participants ( $n = 6$ ), and a smaller group of past-international participants residing in their home country at the time of interview ( $n = 4$ ).

#### 4.1. Before the Pandemic

The pre-pandemic telework experience was typically a limited privilege or occasional flexibility, rather than a default mode for most participants, particularly those who were home-based and abroad-based. Telework was generally used one or two days per week and was often framed as a perk aiming at work–life balance, since it avoids commuting or helps accommodate family needs. As one participant explained, “Before the pandemic, telework was uncommon; as a private banking manager, most work was client-facing, with occasional remote calls made only for logistical convenience rather than as a regular practice” (P8, male, Portuguese, home-baseds). There were, however, notable exceptions linked to occupational roles. Some participants working in ICT reported much higher levels of telework even before the pandemic. As one ICT professional recalled:

As an ICT professional, I think that most of the jobs I've had have ended up, in one way or another, being remote. Even when I had an on-site position, I usually had a fair amount of flexibility, depending on the situation and whenever telework was feasible. There was only a short period when I worked fully in-person, in 2018. (P5, male, Brazilian, abroad-based in Portugal)

At the same time, telework was not a universal practice even within ICT activities, as another ICT professional emphasized: “It was pretty rare for me to work from home. I can't really say how often; if I had some kind of commitment, I could work from home, but even then, it was usually because of a production incident” (P9, male, Portuguese, abroad-based in Brazil). These accounts illustrate low digital permeability, with digital tools remaining peripheral to everyday work practices and professional identities.

More broadly, before the pandemic, employment in internationally oriented firms involved several forms of interpersonal and cross-border connectivity. For most participants, work with organizations or clients located in other countries relied on travel, formal reporting lines, and supplementary digital tools, rather than sustained remote collaboration. One participant described this hybrid and transitional form of telework as follows:

Even before 2017, at the company I worked for, I traveled a lot on business. So, when I was staying in hotels, between meetings or clients' visits, that was a kind of telework; I was still working, just remotely connected rather than in the office. In 2017, this became a regular reality for me because I was the only employee in Latin America for that company. The company was based in Israel, I was in São Paulo, and I had to work with clients across Latin America while coordinating with the back office in Israel and the support team in India. (P3, male, Brazilian, home-based)

Participants frequently described that despite working in transnational organizational settings, their sense of professional belonging was shaped less by a shared global culture than by locally embedded norms of

control and trust: “In the United States, telework is standard practice for the company, since it’s an American-based firm. In Brazil, however, they were more reluctant to allow it, partly because they worried that Brazilian employees wouldn’t actually work” (P9, male, Portuguese, abroad-based in Brazil). This account reflects how transnational work was filtered through national organizational expectations, enhancing identification with local offices rather than with a coherent transnational professional community. For abroad-based participants, ambivalence stemmed from market-segmented, digitally coordinated work roles, rather than due to residence duration, legal status, or discrimination.

For past-international participants, the pre-pandemic period was not an introduction to telework but rather its long-term normalization as a strategic tool for sustaining a transnational career. Given the small size of this group ( $n = 4$ ), the following observations ought to be interpreted cautiously. They are intended to illustrate analytically meaningful trajectories. They don’t represent a general pattern among middling professionals. Unlike home-based and abroad-based participants, telework functioned as the foundational infrastructure of their professional trajectories. One participant’s narrative shows that middling mobility was already digitally mediated well before 2020:

We are always talking about the period before the pandemic. [Teleworking was always the case with] small, medium-sized companies that, in practice, gave the impression that they wanted to take risks in the market, wanted to be different, wanted to innovate, and wanted to do something different from other companies. And they were very, very concerned about the well-being of their employees, about keeping them motivated and focused. (P6, female, Portuguese, past-international)

This participant’s telework practice was intrinsically linked to her migration trajectory: first to maintain economic ties and professional identity with Portugal after moving to the Netherlands, and later to work for a firm in a third country (Mozambique). This case illustrates a form of high digital permeability, enabling portfolio mobility across countries. As a result, when the pandemic led to widespread shifts to telework, participants with high digital permeability were not adapting to a new reality but watching others adapt to what was their normal reality. For them, the pandemic functioned less as a rupture than as an acceleration of an already digitized transnational work style, positioning them advantageously in the post-crisis landscape.

## 4.2. During the Pandemic

The pandemic-induced shift to telework reconfigured the social and relational dimensions of work for middling professionals, with experiences varying sharply by geographical and biographical positioning.

Participants consistently contrasted the pre-pandemic period of spontaneous face-to-face interactions that fostered trust and closeness with the pandemic reality of digitally mediated work. They emphasized their growing difficulties in building new connections, describing workplace relationships as increasingly transactional and less trust-based.

Although the erosion of informal workplace ties was widespread, its consequences differed across groups. Home-based and past-international participants framed this loss primarily as a decline in workplace culture and camaraderie (P1 and P21, Brazilian men, home-based): “In the company I work for now, I practically never see my colleagues in person. I never greeted them; I never had that contact. It’s a kind of strange thing” (P1,



male, Brazilian, home-based); “I think these friendships between co-workers, going out for drinks, somehow have ended. I feel like it’s very difficult right now, even without a pandemic” (P1, male, Brazilian, home-based).

For abroad-based participants, the challenge was more acute: Their isolation was not only social but also geographical and cultural, making digital tools the primary vehicle for integration in a foreign context. Professionals abroad in Spain and in Portugal (P11, Brazilian female, abroad-based in Spain; P5, Brazilian male, abroad-based in Portugal) faced the compounded difficulty of building networks remotely in environments lacking informal relational “glue.” In these cases, digital tools were highly permeable but not empowering, helping to institutionalize distance and peripheral status. Meanwhile, a participant with past experience in Mozambique and the Netherlands (P6, female, Portuguese, past-international) could leverage memories of strong ties in the past, which contrasted sharply with the transactional nature of her current digital interactions in Portugal, which heightened her sense of relational deficit.

Digital platforms were indispensable for telework during the pandemic but produced contradictory outcomes. While enabling continuity, they also fragmented interaction into scheduled exchanges that limited spontaneous collaboration. For home-based participants, videoconferencing often enhanced inclusion in global corporate structures, though at the cost of digital overload: “Then I realized that I could adjust the team meetings. So today I do it, with the team sessions once a week and the individual sessions every 15 days. This way it gives a good break...” (P2, female, Brazilian, home-based).

For home-based participants, successful telework could enhance an identity as global professionals without the need to migrate, potentially satisfying mobility aspirations digitally. Their sense of belonging was anchored to the corporate network rather than to a physical location. For abroad-based participants, however, digital mediation was more fraught, showing high but constraining digital permeability. These participants acted simultaneously as bridges to their teams and as barriers to the host country’s informal workplace sphere, often cementing a structural peripheralization. Belonging was precarious and tied to digital visibility, intensifying fears of being “out of sight, out of mind” in the host country and directly threatening their professional legitimacy and career security abroad. In this context, empathetic management styles were particularly important. The experience of P15 (male, Portuguese, abroad-based in Spain) is particularly illustrative. Although not a sampling criterion, this position as the sole representative of a specific national or regional market recurred across abroad-based participants. Despite 17 years of residence in Spain, his current position managing the Portuguese market kept him digitally and organizationally segregated from his Spanish colleagues. He described a profound sense of being both inside and outside the company: “Sometimes I almost felt that ‘I am from the company, but I am not from the company.’” The absence of shared physical space and common clients meant that weeks could pass without contact, a distance that existed before but was solidified by telework norms. Digital tools did not bridge this gap; they were the medium through which functional isolation was enacted. Generic virtual events failed to address market-based isolation, enhancing a peripheral professional identity shaped by role specialization and team structure: “The Spaniards want to know what comes from the Spanish colleague...not from the French [or Portuguese] colleagues” (P15, male, Portuguese, abroad-based in Spain). For the respondent, meaningful integration required shared work rather than scheduled social interactions. This case underscores how, for middling migrants abroad, digital tools can institutionalize a peripheral professional identity, with belonging negotiated not only through screens but against the constraints of the market assignments and local team structures.

Past-international participants displayed more strategic digital literacy, drawing on past experience to manage digital tools more effectively; for example, using asynchronous communication to counter fatigue (P21, male, Brazilian, past-international). Their accounts reflected a hybrid identity, combining local embeddedness with a transnational professional orientation, sometimes frustrated with the limitations of digital work compared to earlier, richer in-person international experiences.

In conclusion, while all groups experienced digitally reorganized work relationships, the consequences diverged sharply: Abroad-based participants faced heightened exclusion, home-based participants experienced cultural loss, and past-international participants balanced a digitally mediated present against an embodied professional past. This comparative analysis underscores that experiences of digitally mediated work within global labor markets are not uniform but are shaped by the individuals' geographical positioning and biographical trajectories, including, but not limited to, middling migration.

### 4.3. After the Pandemic

After the pandemic, the trajectories of the three groups diverged, as telework consolidated into a permanent condition that mitigated or intensified different forms of ambivalence associated with different positionings in global labor markets.

For abroad-based participants, the post-pandemic landscape often intensified long-standing forms of ambivalence linked to their position in host-country labor markets. Hybrid and fully telework arrangements did little to dismantle those participants' structural isolation, which instead became entrenched through market-specific roles. One participant stated:

Today my boss sees that sometimes I'm online and sends me a message, "It's already late, isn't it?" Other times, I send a good morning message at five o'clock in the morning. I ended up sending it because I forgot about the time difference. I thought, "Wow, I was already awake and working at that time."  
(P10, male, Brazilian, abroad-based in Portugal)

These difficulties persisted even when the participants attended the office. As another participant explained: "The basic work I do is always remote. I may be in the office, but the people I work with are not necessarily there with me. They weren't before the pandemic, and they aren't now" (P11, female, Brazilian, abroad-based in Spain). Such arrangements restricted access to informal exchanges and high-level decision-making, enhancing peripheral positioning and highlighting the constraints of remote inclusion.

While the pressure for continuous digital visibility eased slightly with the reintroduction of some in-person workdays, the underlying challenge of integrating into the local professional fabric of the host country remained. Occasional quarterly in-person European meetings, as noted by P15 (male, Portuguese, abroad-based in Spain), functioned as symbolic corporate rituals that provided temporary camaraderie but did not alter the everyday reality of being the sole representative of a different market. In this context, post-pandemic telework risked solidifying the condition of being a digital satellite to the main organization. In these cases, sustained digital permeability did not foster inclusion but rather stabilized a peripheral professional identity.

For home-based participants, the post-pandemic period offered a more stable form of digitized inclusion, with telework consolidating as a viable long-term strategy for global engagement without relocation. As one participant put it:

We have a benefit here called “WFA,” which stands for “Work From Anywhere” for a certain period. So, for every three months worked, you are entitled to five consecutive days to work from anywhere. So, there are people who wait a year to get five days every quarter and take a month off, go travelling, and do WFA somewhere. And it works really well. (P10, female, Brazilian, home-based)

This configuration reflects a moderate but enabling form of digital permeability, expanding opportunities while shifting challenges toward managing overload, boundaries, and relational depth. Participants stated they were learning to rely more heavily on asynchronous communication, reducing synchronous forms of communication and planned collaboration: “I think nowadays we text more and call less. To me, texting is kind of the easy way out instead of picking up the phone and talking” (P17, female, Portuguese, home-based). Their sense of belonging became more firmly attached to the corporate networks rather than to a specific geography, representing a new form of middling professional identity that was globally connected yet locally grounded: “In my case, it seems like I don’t even have a boss. Every now and then he shows up to say something. I spend most of my time at the client’s company” (P1, male, Brazilian, home-based).

For past-international participants, the post-pandemic period involved reconciling a rich, embodied professional past with a digitally mediated present. Their historical migrant capital helped develop a more critical and reflexive engagement with hybrid work, as illustrated by a Brazilian manager with past international experience (P21, male, Brazilian, past-international), criticizing the persistence of outdated, control-based management, arguing that “the 20th century Fordist work organization was already obsolete before the pandemic. Then it bursted, because how do you control when you are remote?” (P21, male, Brazilian, past-international). That manager actively champions more effective, asynchronous ways of working. His critique is sharpened by his observation of a pervasive climate of fear that stifles innovation: “I see colleagues...who are very insecure, lack autonomy, and are very afraid....People don’t want to change because they are afraid...and this hinders any progress” (P21, male, Brazilian, past-international).

Another participant focused on how she implemented a new way of working:

The other day someone asked me, “How many meetings do you have each week?” I only have one, and it’s very quick, because we communicate every day, so I know exactly what everyone is doing on a daily basis. Therefore, there’s no need for a follow-up meeting to say, “Tell me what you’re doing, what you did last week, and what you’re going to do this week.” (P6, female, Portuguese, past-international)

While not directly attributed to their migrant biographies, their analytical stance, contrasting past and present work practices, suggests a comparative viewpoint shaped by diverse experiences. Given the small size of this group, these insights should be read as analytically indicative rather than representative, highlighting a critical perspective on digital work; such perspective is worth further exploration in relation to middling professionals’ trajectories.

These findings demonstrate that digital technologies did not simply mediate work, but permeated participants' working lives to different degrees, producing unequal relational and career outcomes across professionals who are positioned differently within global labor markets.

## 5. Discussion

This study set out to investigate how teleworking across the Covid-19 pandemic reshaped workplace social relationships among middling professionals. By reviewing retrospective accounts of individuals positioned differently within global labor flows, i.e., those home-based, those abroad-based, and those with past-international experience, we find that the forced digital mediation of work significantly amplified ambivalences associated with the professionals' positioning in global labor markets.

Across groups, the pandemic reconfigured social ties, with digital tools helping as both bridges to transnational opportunities and barriers to relational embeddedness. These tensions had profound implications for the professionals' sense of belonging, revealing the limits of digitally mediated connection when detached from shared physical contexts.

The middling migrant literature has long highlighted the instrumental value of professional networks for labor market navigation (Barwick, 2022; Conradson & Latham, 2005). At the same time, we note a relative neglect of the relational dimensions of workplace integration (Habti, 2021; Skey, 2018). This study addresses that gap directly, by showing how the collapse of physical co-presence during the pandemic exposed the fragility of relational embeddedness when the setup relies primarily on digital mediation. The widespread turn toward more transactional interactions underscores a critical limitation: While digital platforms are effective for sustaining instrumental, task-oriented connections, they are poor substitutes for the spontaneous and informal personal interactions through which trust, camaraderie, and a durable sense of belonging are typically forged.

Importantly, this transformation was not uniform. For home-based participants, the loss of co-presence was experienced primarily as a cultural loss, a mourning of everyday workplace sociability. For abroad-based participants, however, the stakes were considerably higher. Their challenge was not merely to preserve relational depth but to establish any meaningful foothold within the host-country professional communities. Where digital tools became the primary conduit for integration, they often institutionalized a peripheral status rather than overcoming it, as illustrated by the case of P15, whose market-based isolation became digitally codified. This finding critically extends the concept of differentiated inclusion (Mendoza, 2022; Yang, 2022), by showing how exclusion can be enacted and sustained through everyday communicative practices, beyond legal or credential-based barriers.

Research on migration's digital turn has emphasized how technologies create hybrid social fields that bridge distance and sustain transnational bonds (Brandhorst, 2024; Marques & Calla Jesús, 2025). The comparative analysis presented here extends prior studies' conclusions by introducing the concept of differential digital permeability. For participants with past international experience, digital tools have long functioned as reliable bridges, enabling portfolio mobility and sustaining a transnational career. While based on a small number of cases, this pattern is analytically indicative of how accumulated mobility capital shapes the capacity to benefit from digitally mediated work.

For abroad-based participants, however, the same infrastructure frequently acted as walls or filters. Digital connectivity facilitated alignment with organizational centers while enhancing separation from local informal working environments. Corporate-mandated virtual social initiatives were widely perceived as insufficient to address market-driven or territorially rooted isolation. This suggests that the capacity of digital tools to foster inclusion is contingent on pre-existing social capital and structural position; digital mediation alone cannot generate local embeddedness where none previously existed. Such findings call for a more nuanced understanding of digital transnationalism, one that acknowledges its potential to reproduce or intensify marginalization in the framework of global labor markets.

The chronological framing of this study also connects middling migrants' experiences to broader shifts in teleworking practices. For these professionals, the boundary between broad telework arrangements and more specific forms of remote work was often blurred, since distance-based roles frequently still involve periodic travel and in-person encounters even when daily tasks were performed away from the central workplaces. Remote work, understood here as telework arrangements without expectations of regular physical presence (Pfeffer & Baron, 1988), characterized the pre-pandemic experience of past-international participants, who were early adopters of such arrangements. By contrast, the widespread and, in some contexts, mandatory expansion of telework during the pandemic aligns with research evidencing its intense psychosocial impacts (Bennett et al., 2021; Labrecque et al., 2023). The post-pandemic phase assessed here contributes to debates on the normalization of telework (Türkeş et al., 2024) by showing that this process has become deeply stratified.

Post-pandemic telework has consolidated as a structuring feature that differentially shapes professional belonging. For home-based participants, it offers a relatively stable form of digitized inclusion, allowing global engagement without relocation and anchoring primarily in corporate networks. In contrast, for abroad-based participants, it risks cementing a lasting peripheral position, where belonging remains contingent upon sustained digital visibility. This marks a significant shift: Professional security in global labor markets is no longer assured primarily through the portability of credentials, but through the capability to perform value, presence, and connection through digital channels. The ambivalent positioning often associated with middling migration is thus increasingly mediated and contested within the digital infrastructures of contemporary workplaces.

## 6. Conclusion

This article has shown that the pandemic-induced shift to telework did not simply change the location where professionals work but reshaped the social ecology of work and the bases of professional belonging within the global labor markets. By bringing into dialogue the literature on middling migration, digital transnationalism, and telework, the analysis demonstrates that digital mediation operates as a double-edged sword. It can bridge distance and enable access to global opportunities, while simultaneously undermining local integration and the relational depth through which professional belonging is sustained.

Crucially, these dynamics unfold unevenly across differently positioned professionals. For abroad-based participants, who constitute the middling migrant group in this study, the post-pandemic workplace has become a digitally saturated arena in which the insecurities of the in-between position are increasingly negotiated through screens, schedules, and the relentless pursuit of digital visibility. For these migrants,

digitally mediated work did not simply replace physical co-presence, but actively re-shaped possibilities for integration, often institutionalizing peripheral professional positions within the host-country labor markets. Recognizing this digitally mediated dimension of their experience is crucial for developing more nuanced theories of skilled mobility and for crafting organizational and policy frameworks that foster genuine inclusion in the evolving geography of work.

At the same time, the experiences of home-based professionals and those with past-international experience provide an essential comparative lens for understanding the middling migrant condition. Home-based participants showed how digital mediation can enable stable forms of global inclusion without migration, while past-international participants revealed how accumulated mobility capital and prior transnational experience shape more reflexive and strategic engagements with digital work. Together, these groups highlighted the challenges facing middle-class immigrants abroad, which are not inherent in the telework itself, but arise from the interaction between digital infrastructure, geographical location, organizational role, and biographical routes.

Theoretically, this article contributes in two key ways. First, it advances research on middling migration by showing that the ambivalences associated with migrants' in-between positioning (privilege and insecurity) are today increasingly mediated and negotiated through digitally reorganized workplace practices. Second, this article introduces the concept of differential digital permeability, arguing that digital tools do not function uniformly as mechanisms of inclusion. Their capacity to bridge distance or entrench peripherality depends on where professionals are located within the organizational and market structures, and on their accumulated histories. This perspective reframes social ties in a digitally mediated work environment, showing how the instrumental/relational distinction is reworked under conditions of sustained telework, with significant consequences for belonging and career security.

However, this study has limitations. Its retrospective design relies on recalled experiences, which may be subject to bias. The sample, while diverse, has a moderate size and focuses only on two nationalities, limiting the possibilities of generalization of the findings. Future research could extend this analysis through longitudinal designs, explore middling migrants in additional sectors and regions, and examine more closely how specific organizational policies mitigate or amplify peripherality in transnational careers.

From a practical standpoint, the findings underline the limitations of one-size-fits-all approaches to telework in globally distributed organizations. For middling migrants abroad in particular, telework arrangements can exacerbate existing inequalities in relational access and professional visibility. Organizations seeking to foster genuine inclusion policies should move beyond generic virtual initiatives and instead create structured opportunities for meaningful cross-border collaboration on shared projects. Mentorship and sponsorship programs must be adapted to account for geographical and digital distance, ensuring that professionals located outside the organizational centers remain integrated into career pathways. More broadly, the capacity to build trust, assess performance, and sustain relational connections in hybrid environments will be central to supporting equitable integration in the evolving geography of digitally mediated work.

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### Conflict of Interests

The authors declare no conflict of interests.

### Data Availability

The data cannot be shared due to the lack of participant consent and the sensitivity of the organizational information, which could compromise participants' anonymity.

### LLMs Disclosure

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## About the Authors



**Rosária Ramos** is an associate professor at the Instituto Superior de Ciências Sociais e Políticas, Universidade de Lisboa, and coordinator of the People, Organizations and Work Management research group at the Centro de Administração e Políticas Públicas. Her research explores work inequalities, inclusion, collaborative identities, and the digital transformation of work.



**Sónia P. Gonçalves** (PhD in work and organizational psychology and PhD in management) is an assistant professor at the Instituto Superior de Ciências Sociais e Políticas, Universidade de Lisboa, and a researcher at the Centro de Administração e Políticas Públicas. Her research focuses on human resource management and occupational health psychology.

# Balancing Doctor Mobility and Public Health Delivery: Human Resources for Health in Latvia

Ģirts Jirgensons  and Karina Palkova 

Faculty of Social Sciences, Riga Stradiņš University, Latvia

**Correspondence:** Ģirts Jirgensons ([girts.jirgensons@inbox.lv](mailto:girts.jirgensons@inbox.lv))

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## Abstract

Healthcare systems across Europe face increasingly complex challenges that demand innovative responses. Public health is now widely acknowledged as a determinant of population well-being and as a significant contributor to national economies. In Latvia, the large-scale out-migration of healthcare practitioners represents one of the most pressing issues confronting the national health sector. This trend has intensified since the country's accession to the European Union in 2004, as healthcare practitioners leave in search of better working conditions and higher wages abroad. The resulting shortage of medical professionals threatens the stability of the healthcare system as well as the wider economy. The aim of this study is to understand the dynamics and causes of the emigration of healthcare practitioners, particularly medical doctors, and to examine the role of the state in preventing this trend to ensure balanced doctor mobility and effective public health delivery. The article places particular emphasis on the position of young doctors, who are critical to the sustainability of Latvia's healthcare system. It examines Latvia's legal framework requiring medical graduates to work in the public sector for three years following residency and assesses its compatibility with constitutional rights and EU regulations. The discussion considers potential mechanisms for recovering financial resources when this service obligation is not fulfilled, as well as the possibility of introducing alternative models, such as telemedicine, with much fewer resources. In addition to legal measures, the article explores the role of technological innovation, particularly telemedicine, as a potential means of mitigating doctor shortages and expanding access to care. The article concludes that the continued emigration of healthcare professionals poses a serious threat to the effective functioning of the national healthcare system. Without timely and effective action, the country risks failing to provide adequate and timely healthcare services, especially in specialised fields.

## Keywords

health policy; medical practitioners; mobility; resident doctor; technologies; telemedicine

## 1. Introduction

The principal function of the European Union in health policy is to facilitate, coordinate, and support Member States in attaining collectively agreed objectives anchored in the Treaty on the Functioning of the European Union (TFEU, 2012). The Health in All Policies (HiAP) approach constitutes a guiding principle in EU governance, according to Article 168 of the TFEU (2012), which forces the EU to protect and improve human health and to ensure a high level of health protection across EU policies. HiAP acknowledges that health is substantially shaped by a broad set of social, environmental, and economic determinants (Stahl, 2018, pp. 38–39). Consequently, health considerations should be mainstreamed across diverse policy domains beyond public health, to promote coherent and synergistic outcomes for the health of the population (Green et al., 2021).

The free movement of workers, a fundamental principle of the EU, grants EU citizens the right to seek employment in any EU member state and aligns with the goals of the EU Health Policy concerning the healthcare sector. The conclusion of the 1992 Maastricht Treaty marked a significant turning point in the EU political and legal landscape, as it formally established EU citizenship (TFEU, 2012). This shift enhanced the rights and freedoms of EU citizens and deepened the integration of member states, facilitating greater cooperation and mobility across the bloc. It represented a move toward a more unified Europe, where citizens enjoy rights that transcend national boundaries, contributing to a stronger sense of European identity. The absence of worker mobility could jeopardize the stability of the EU's labour market. In scenarios where certain regions experience high unemployment and low wages, a surplus of labour may develop. Conversely, other regions might suffer from labour shortages, leading to significantly higher wages. This disparity would result in countries with elevated labour costs producing goods and services that are less competitive compared to those from nations with lower labour expenses. Furthermore, EU member states might face challenges in achieving their policy objectives if they lack sufficient human resources. The EU facilitates coordination and generates economies of scale by pooling resources to tackle common challenges, such as the associated risk factors that mobile workers may face (European Parliament, 2019).

The accession to the EU in 2004 significantly impacted Latvia's labour market, leading to an emigration of workers, including healthcare practitioners. Although the shortage of healthcare professionals was not immediately apparent after enlargement, it has become evident that the healthcare system faces considerable challenges. In 2013, the EU enacted Directive 2013/55 (European Commission, 2013), which amended the rules on recognition of professional qualifications to facilitate and standardise medical practice across EU member states, with implications for doctors wishing to work outside their country of qualification.

The aim of this study is to understand the dynamics and causes of the emigration of healthcare practitioners, particularly medical doctors, and to examine the role of the state in preventing this trend to ensure balanced doctor mobility and effective public health delivery.

## 2. Methodology

The authors examine the availability of healthcare human resources in Latvia, comparing it with other EU member states, and, using survey data, analyse the main reasons behind doctors' emigration.

The study synthesises relevant research and discussions on labour mobility within the EU, with a focus on the movement of medical practitioners. It also analyses normative and legal documents to provide a framework for applying vertical determinants and metatheory methods to health policy formation, and to guide qualitative research methods, qualitative data processing and analysis, and the consideration of secondary and statistical data relevant to Latvia's health system. In addition, the study maps the current health workforce supply in Latvia using data from the European Commission, Eurostat, and the OECD, as well as sources from the State Audit Office in Latvia, the Ministry of Health of the Republic of Latvia, and legal acts and regulations related to the health workforce and its continuous professional development.

Another part of the study investigates the horizontal determinants of health-practitioner emigration from Latvia, using a quantitative assessment of the health system's setting and conditions. A survey of 259 physicians was conducted by the social research company Berg Research. A two-stage sampling method was used. In the first stage, seven hospitals were selected: three major hospitals in the country's capital, Riga, and four regional hospitals, representing a wide range of medical specialties.

In the second stage, a random sample of about 15% of practicing doctors from each hospital was surveyed in a random sample, ensuring that 60% of respondents were under 40 years old.

The questionnaire included 18 questions on the following aspects: description of doctors' current working conditions and remuneration; assessment of workload, opportunities for professional development and further education; training, residency, remuneration, and career opportunities for young doctors; and perceptions of the national healthcare system, including the shortcomings of doctors in their specialties and emigration factors. Responses were measured on a 4-point Likert scale from *strongly disagree* to *strongly agree*. Validity and reliability were tested, and statistical results were obtained using the program SPSS Statistics. Validity, or accuracy, was tested using Pearson correlation (items vs. total,  $p < 0.05$ ), ensuring the survey accurately measured the intended construct. Reliability, or consistency, was tested in SPSS using Cronbach's alpha (analyse > scale > reliability analysis), with values above  $>0.7$  indicating high internal consistency.

A total of 259 questionnaires were included in the data processing; 57.5% of respondents were under 40 years of age. The representativeness or reliability level of our sample is 94% (6% margin of error). In relation to the number of doctors in the surveyed hospitals, 13.3% of doctors are under 40 years of age, while the corresponding proportion of doctors under 50 years of age is 10.7%.

The analysis of the number and composition of respondents shows that the largest groups are relevant, and it is possible to draw statistically significant conclusions, the best age groups, groups by length of service, by place of work, between doctors and resident doctors, between employees in the capital's hospital and in the regions, as well as by desire to emigrate.

The following research hypothesis assumes that the large-scale emigration of healthcare practitioners from Latvia results primarily from unfavourable working conditions and insufficient state retention measures, and that strengthening legal frameworks and adopting technological innovations, such as telemedicine, can help balance doctor mobility and ensure sustainable public healthcare delivery.

Overall, the study contributes to discussions on how healthcare policies and regulations, including telemedicine, influence the availability of services and the broader management of the public health system.

### 3. Human Resource Dynamics in the Healthcare Sector

Healthcare is extremely labour-intensive and is one of the most significant sectors of the economy in the EU, employing 9.7% of the EU workforce (Eurostat, 2023). At the same time, healthcare systems in Europe are facing increasingly complex challenges that demand innovative solutions. The restructuring of healthcare both in the EU and in Latvia, coupled with demographic, technological, economic, and institutional changes, has an impact on the desires and wants of healthcare workers as well as on the nature and scope of their work and contributions to the healthcare industry. Furthermore, public health is increasingly recognised as stimulating economic productivity. Several OECD studies analysed the state of human resources in the healthcare system in Latvia before and after the Covid-19 pandemic, which has had a serious impact on the sector (OECD, 2021, 2023, 2025h).

Over the past decade, doctor shortages have become more pronounced. In Latvia in 2019, there were only 3.3 practicing doctors per 1,000 people—well below the EU average of 3.9, while the number of nurses was about half the EU average, making Latvia one of the lowest staffed health systems in the EU (OECD, 2021).

The OECD's 2023 study on the healthcare system and human resources in Latvia notes that, despite the ongoing shortage of healthcare workers, their numbers have not increased significantly over the past decade. In 2021, Latvia had 3.4 doctors per 1,000 inhabitants, which was slightly below the EU average. Nurses numbered 4.2 per 1,000 inhabitants, less than half the EU average of 8.5 per 1,000 (OECD, 2023). To address these gaps, policy measures have included wage increases from 2018 to 2023 and financial incentives aimed at reducing the urban–rural distribution disparity among healthcare workers. The OECD's 2025 report shows virtually no improvement compared with 2021 and 2023. Latvia continues to experience shortages across multiple staff categories. In 2023, there were 3.4 physicians per 1,000 population—well below the EU average (4.3 per 1,000). The density of nurses is concerning at 4.2 per 1,000, about half the EU average of 8.5 per 1,000. Latvia has introduced a new “general care nurse” role, with dedicated funding of EUR 2.8 million (OECD, 2025h). Despite rises in wages in the public sector between 2018 and 2023, many health workers leave the public system for the private sector or migrate abroad, motivated by higher salaries and better working conditions. Within the medical workforce, 23% of physicians were general practitioners in 2023, reflecting ongoing efforts to strengthen primary care. However, shortages persist in rural areas due to comparatively low reimbursement in the public sector and the enticement of private practice. A new initiative to standardise remuneration and improve working conditions, especially outside major cities, is underway to enhance patient access and reduce the urban–rural divide. The Ministry of Health of Latvia has estimated that the health sector currently requires around 4,900 additional nurses. Poor working conditions and low pay are deterrents to both entering and remaining in the public healthcare sector, particularly for nurses. The ageing of medical practitioners and their uneven regional distribution pose further challenges for the sector. The European Commission also points to a serious situation: Latvia has fewer doctors per 1,000 inhabitants than the EU average (European Commission, 2025).

Table 1 provides a brief comparison with other relatively small European Union member states, showing how many doctors there are per 1,000 inhabitants.



**Table 1.** Number of doctors per 1000 population with relatively small populations.

|           |                                             |
|-----------|---------------------------------------------|
| Latvia    | 3.4 practising doctors per 1,000 population |
| Estonia   | 3.5 practising doctors per 1,000 population |
| Slovenia  | 3.5 practising doctors per 1,000 population |
| Slovakia  | 3.8 practising doctors per 1,000 population |
| Denmark   | 4.5 practising doctors per 1,000 population |
| Lithuania | 4.6 practising doctors per 1,000 population |
| Portugal  | 5.8 licensed doctors per 1,000 population   |

Source: OECD (2025a, 2025b, 2025c, 2025d, 2025e, 2025f, 2025g).

As part of Latvia's recovery and resilience plan, in 2024, the Government adopted the *Healthcare Workforce Development Strategy 2025–2029* (Cabinet of Ministers, 2024a). The strategy seeks to enhance recruitment and retention of health professionals by addressing core areas such as health workforce planning and financing, education and employment pathways, and working conditions and performance. Consequently, it will implement comprehensive measures designed to attract and retain essential medical staff in the public sector.

An extensive report, *Human Resources in Healthcare* (The State Audit Office, 2019), drew sharp and critical conclusions. The report found that the number of medical professionals employed in the healthcare system continued to decline, the workforce was aging significantly, and there were substantial disparities in the distribution of medical professionals between regions, the capital, and metropolitan areas. Key challenges included establishing effective human resource planning, improving wage structures and social benefits, and developing educational systems that meet labour market needs in the healthcare sector. A unified methodology for planning the required number of medical professionals was considered necessary. The conceptual report described the basic principles and criteria for planning and forecasting human resources in the sector. Although the Ministry of Health had already set, in 2005 (after Latvia's accession to the EU), a goal to align the healthcare system's human resources with demand in terms of quantity and qualifications, several challenges persist. First, there is a critical shortage of nurses and midwives in the sector—according to reported estimates, the health sector needs at least 3,598 additional nurses and 295 midwives. Second, while the number of doctors in Latvia compared to the population is near the international average, there is still a shortage of doctors in certain specialties.

In the healthcare sector, it is important that a doctor with certain qualifications is available where the patient needs them; however, the report concluded that the activities of the Ministry of Health in implementing the human resources development policy have not significantly improved the availability of healthcare services in Latvia's capital region and its other territories. However, the Ministry of Health intended to attract residents to work outside Riga, which did not significantly change the availability of doctors in the regions, and the Ministry did not succeed in attracting a sufficient number of new specialists to the healthcare sector.

However, the report has highlighted that the indicator is met by the fact that 92% of doctors who have completed their residency start working in the health sector, while in the case of other professions, the criterion has not been met—only 52% of nurses and 54% of midwives start working in Latvia after completing their studies. In total, only 65% of young specialists who have acquired qualifications remain in the Latvian labour market after receiving their diplomas. Although a significant problem in healthcare is the

rapid aging of medical personnel, the criteria set by the Ministry of Health for the replacement of generations of medical personnel have not been fully achieved, and the Ministry also does not have effective solutions to solve this problem. The data analysis conducted during the audit shows that 55% of medical and support personnel are over 50 years of age. In several medical specialties, the situation can be considered critical because, for example, 65% of the country's practicing doctors with a surgical specialty are over 50 years old, including 21% of specialists who have reached the age of 65.

To improve the situation, new specialists must be trained, and measures must be taken to ensure that they continue working in the healthcare sector. Moreover, demographic data shows that in 2025, more than 8,000 medical professionals were aged 60 to 64. In turn, only 7,000 staff in the health sector are from the younger generation, under the age of 29. Latvia faces a looming healthcare workforce shortfall driven by an aging trained health professionals and insufficient growth in the number of young professionals. Current demographic indicators suggest a gap of about 1,000 doctors and more than 4,000 nurses (Ministry of Health, non-official information from 2026), with projections indicating that Latvia could face a shortage of about 2,400 medical professionals by 2030, a figure likely to be higher (Lukjanska, 2025). Addressing these challenges requires expanding training for new specialists and implementing retention strategies, alongside robust workforce planning and incentives to keep healthcare workers in the sector.

#### 4. Key Factors Behind Medical Migration

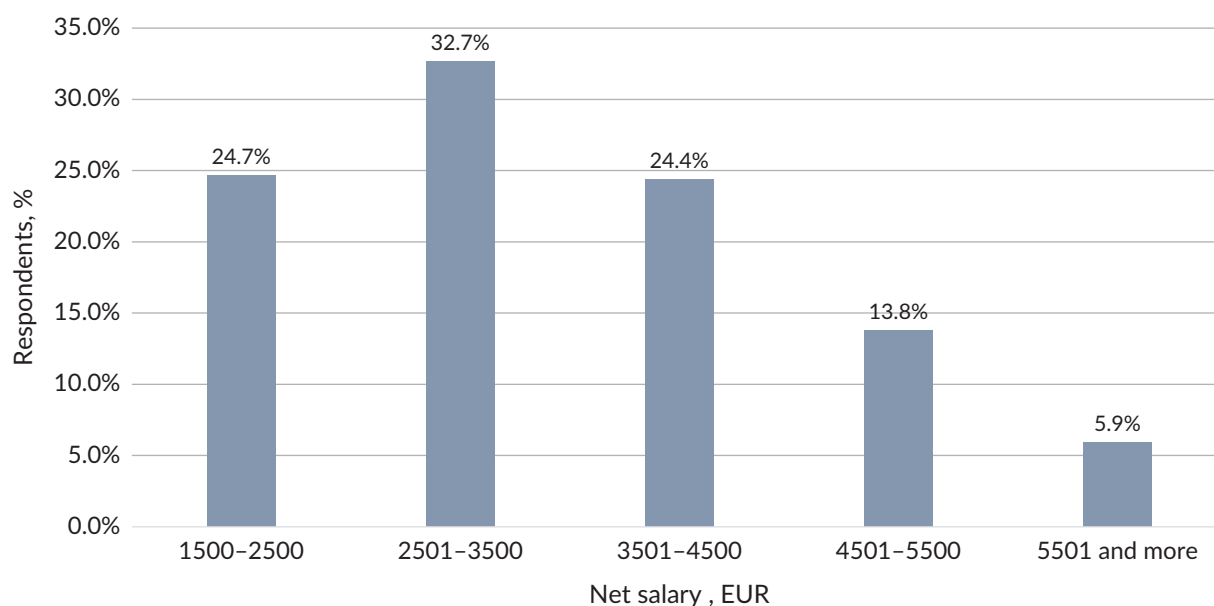
Among healthcare professionals and the general public, there is a prevalent perception that remuneration is the primary motivation for doctors who choose to emigrate; while this used to be widely accepted a decade ago, the authors suggest that other factors have gained importance in recent years. The survey of doctors reveals that considerations such as social guarantees, job security, and access to advanced medical technologies and career opportunities are increasingly influencing their decisions to relocate.

The authors conducted a survey in 2025 in collaboration with experts from Berg Research company, targeting medical doctors and early-career physicians to gain insights into the primary factors influencing emigration from the country. The survey is based on the responses of 250 participants, and the following sections present the analysis of their answers.

The distribution of responses to the question “In your opinion, what should the net salary be after taxes for new doctors in Latvia after completing residency, so that the new specialist does not consider emigration due to the salary?” shows that 32.7% of respondents indicate a wage within the EUR 2,501–3,500 range, and a sufficiently large proportion indicate a wage within EUR 3,501–4,500 (Figure 1).

The following picture opens up for comparison with both clinical university hospitals: The page for Pauls Stradins Clinical University Hospital (2026) states that the average wage for a doctor per full-time workload is EUR 4,424 gross, which corresponds to about EUR 3,100 net.

This expectation reflects their desire for competitive compensation that acknowledges their extensive training and the demanding nature of the profession. Additionally, many young doctors expressed concerns about the rising cost of living and the need to secure financial stability as they began their careers, emphasising that adequate remuneration is crucial for attracting and retaining talent in the healthcare sector.



**Figure 1.** Minimum expected net salary for doctors after completing residency (EUR).

The page of one of the largest medical institutions, Riga Eastern Clinical University Hospital (2026), indicates that the average salary for a full-time doctor is EUR 4,541, including taxes: approximately EUR 3,200 net.

Results above 2.5 indicate participants mostly agreed and gave positive assessments, while results below 2.5 confirm a mostly negative assessment. From the results of the answers, it can be concluded that, in the opinion of doctors, too little experience exchange and internships abroad are provided, and the workload is indicated as being high. This is consistent with the fact that information about physician “burnout” often appears in the mass media, which is relevant to the author’s opinion (Table 2).

The survey conducted by the authors proved that more than one-third of the doctors surveyed exhibited high levels of emotional exhaustion and depersonalisation, along with low levels of personal achievement. This is especially relevant to the Covid-19 pandemic period, when, for example, emotional exhaustion of operating room nurses working in hospitals has reached a very high rate—89% of respondents. This is reflected in an important study on “burnout” syndrome and professional deformation conducted at the Traumatology and Orthopaedics Hospital, where it was concluded that 29% of respondents observed aggressive behaviour during work, 18% observed authoritarian traits, 31% demonstrative behaviour, indicating serious problems in the mental well-being of specialists and, consequently, in the quality of healthcare services provided (Nagle et al., 2023). Common risk factors have been reported, such as increasing bureaucratic requirements, long working hours, lack of respect from colleagues, remuneration not commensurate with the work done (lack of balance between input and reward), lack of clinical autonomy, as well as (as strange as it may seem) the increasing use of information technology (electronic medical records) in practice. The above problem was pointed out by former President of the Latvian Medical Association, Pēteris Apinis, who has said that doctors in Latvia often “burn out” due to excessive bureaucracy, unjustified reforms, and heavy workload (Apinis, 2017).

**Table 2.** Satisfaction with working conditions by age groups.

|                                                                                                                    | All answers | Age groups |       |       |       |             |
|--------------------------------------------------------------------------------------------------------------------|-------------|------------|-------|-------|-------|-------------|
|                                                                                                                    |             | Until 29   | 30–39 | 40–49 | 50–59 | 60 and over |
| My workplace has good and safe working conditions, with an organized workspace.                                    | 2.9         | 3.0        | 2.8   | 2.9   | 3.0   | 3.1         |
| The employer properly ensures workplace safety (for example, your protection against potential patient aggression) | 2.7         | 2.9        | 2.6   | 2.5   | 2.8   | 2.9         |
| The employer is understanding/supportive                                                                           | 2.9         | 3.1        | 2.8   | 2.8   | 2.9   | 2.9         |
| The employer provides training opportunities (courses)                                                             | 2.8         | 3.1        | 2.8   | 2.6   | 2.7   | 2.9         |
| There is successful professional collaboration with colleagues at the workplace                                    | 3.1         | 3.3        | 3.0   | 3.1   | 3.2   | 3.2         |
| I have good personal relationships with my colleagues                                                              | 3.4         | 3.4        | 3.3   | 3.3   | 3.5   | 3.5         |
| I manage to find a balance between work and personal life                                                          | 2.5         | 2.8        | 2.3   | 2.2   | 2.7   | 2.9         |
| The employer offers foreign business trips (experience exchange, internships abroad, conferences, etc.)            | 2.3         | 2.6        | 2.3   | 2.2   | 2.2   | 2.1         |
| How, at present, thinking about the last 3 years, has your workload affected your mental health?                   | 2.0         | 2.1        | 1.8   | 1.9   | 2.1   | 2.3         |

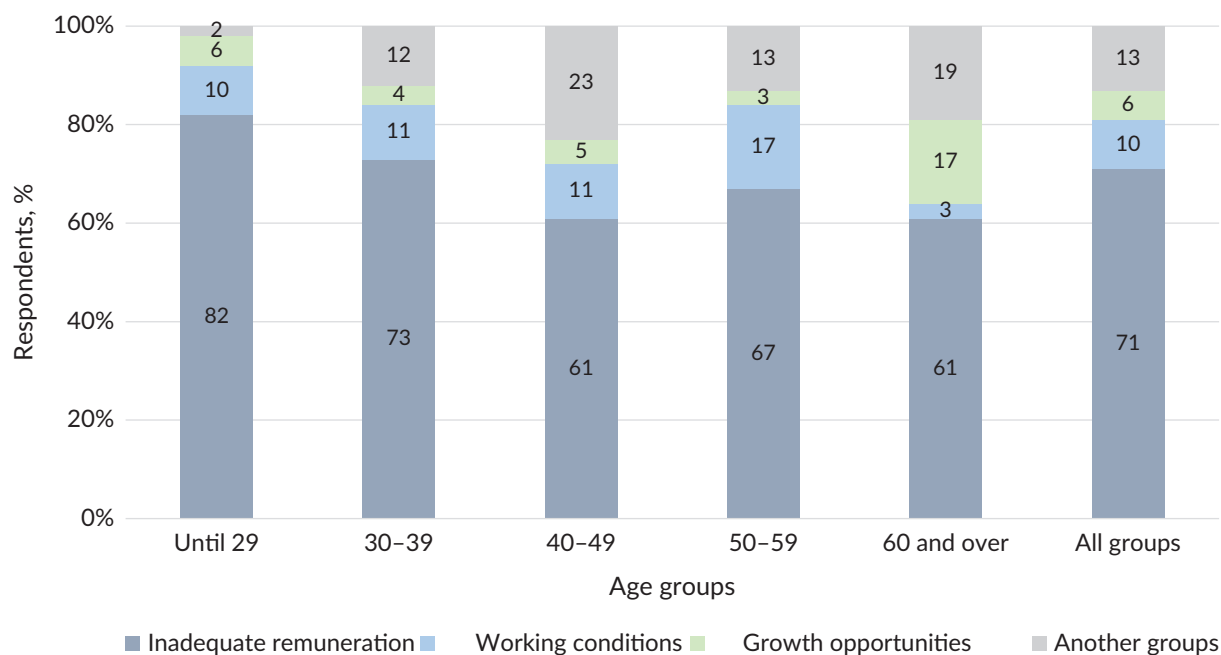
Notes: Arithmetic means calculated from Likert scale ratings from 1 (*completely disagree*) to 4 (*completely agree*), without considering the answers *difficult to answer*.

In Latvia, many doctors work at multiple workplaces, which can contribute to “burnout.” This, in turn, may affect the quality of medical care, patient safety, and interactions with patients and colleagues. Regarding the question “In your opinion, what is the main reason for the emigration of medical professionals from Latvia?” the following responses were recorded.

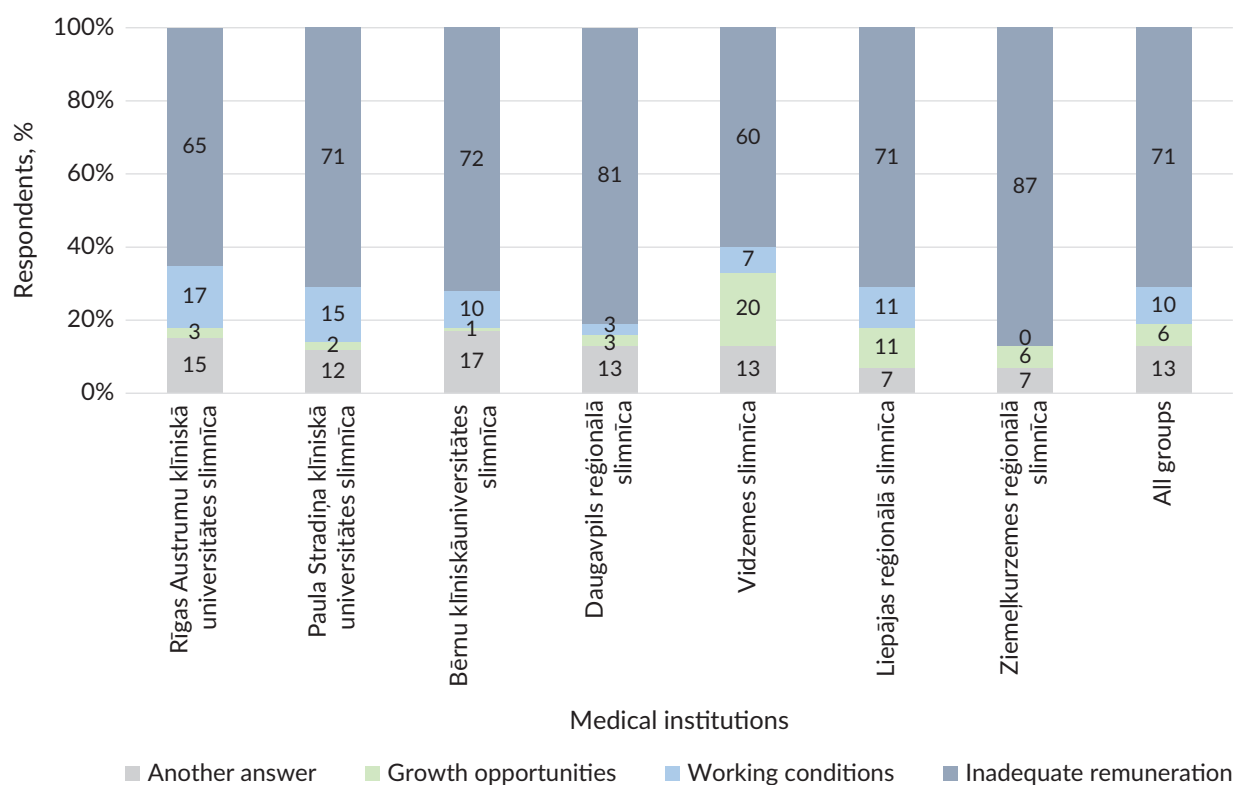
Inadequate remuneration is consistently cited as the main reason in all age groups. It is most highlighted in the youngest age group, up to 29 years. As an “other answer,” more often mentioned are “all reasons,” “chaos in healthcare,” and “overload.” Moreover, among those contemplating emigration, many expressed concerns about their current working conditions, social stability, and career prospects in their home country, suggesting that a range of motivations drives this intent to explore opportunities abroad (see Figure 2).

When examining the responses in more detail, opinions are divided according to the respondent’s indicated workplace (medical institution).

Figure 3 shows the difference in opinions when separating the answers provided by medical doctors in medical institutions and in regions of the country. Opinions differ by region and by physician type: remuneration and career opportunities are top concerns in less-developed areas, whereas working conditions are more prominent in large hospitals.

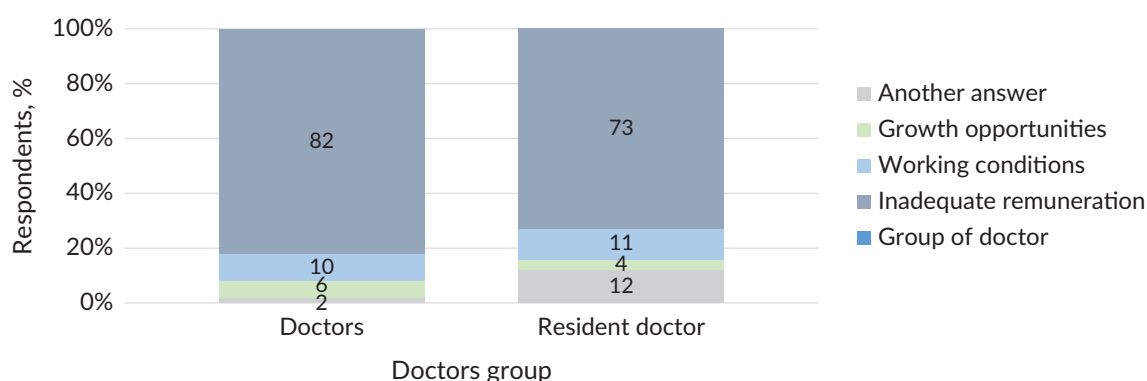


**Figure 2.** Reasons for emigration by age groups.



**Figure 3.** Reasons for emigration by medical institutions.

Figure 4 shows the difference in opinions between doctors and resident doctors.



**Figure 4.** Reasons for emigration by groups of doctors.

Based on the survey, it can be concluded that remuneration is not the only factor the state should address to motivate medical doctors to stay in Latvia; this applies to both respondent groups. Critical aspects also include improving working conditions, providing ongoing professional development opportunities, ensuring job security, and strengthening the overall healthcare infrastructure. Additionally, addressing workload and access to resources can significantly influence doctors' decisions to remain in the country, creating a more attractive and supportive environment for healthcare professionals.

Table 3 shows, in percentage terms, the respondents' opinions on which specialty they believe has the greatest and most noticeable shortage of specialists.

**Table 3.** Most common answers to the question: In which medical specialties do you think there is the greatest shortage of doctors in Latvia (public sector)?

| Specialty          | Total responses (%) |
|--------------------|---------------------|
| Family doctors     | 12.3                |
| All specialties    | 8.0                 |
| Pediatricians      | 5.0                 |
| Psychiatrists      | 4.5                 |
| Internists         | 3.8                 |
| Emergency medicine | 3.8                 |
| Rheumatologists    | 3.5                 |
| Neurologists       | 3.5                 |
| Oncologists        | 3.0                 |
| Anesthesiologists  | 2.8                 |
| Surgeons           | 2.8                 |

The largest proportion of respondents, when asked in which specialty they think there is the greatest shortage of doctors, indicated that it is in general practise. This is a very worrying trend, because a family doctor is the primary healthcare specialist, usually the first person a patient turns to understand what to do next, and to which specialist the patient should be referred.

The largest share of respondents identified family doctors as the specialty with the greatest shortage. This is of particular concern because family doctors are primary healthcare specialists and usually the first point of contact for patients, guiding next steps and referrals to other specialists.

Current data show there are 1,200 family doctors in Latvia, more than 400 of whom are already of retirement age. The greatest concentration of family doctors is in Riga (more than 500), while the Latgale region has the smallest number (141). Across the country's regions, there are fewer than 200 family doctors in the territories of the country: Vidzeme, Kurzeme, and Zemgale (Zalamane & Ozola, 2025). In the capital (Riga) and the metropolitan area, the share of retirement-age doctors is also the highest.

Addressing the shortage and the aging workforce, particularly through targeted recruitment, retention, and regional workforce planning, is crucial to maintain timely, effective primary care across the country.

## 5. Discussion on Telemedicine in Latvia

In recent years, the Latvian healthcare system has faced significant challenges, primarily in the availability of publicly funded healthcare services and workforce issues. A major reason for doctors leaving the country is salary; therefore, the government must secure funding to increase healthcare personnel's remuneration. However, it's important to note that the significance of salary as a reason for emigration has diminished over time. Based on the survey's results presented above, it could be said that the decision to emigrate may be influenced by such factors as social security benefits, state guarantees, better access to childcare, improved healthcare quality, mortgage loan availability for families, professional development opportunities, and access to advanced technologies. Addressing these challenges is essential for retaining young professionals. However, to find solutions to the above-listed issues requires time.

As it was already underlined, there is a shortage of medical doctors, especially general medical specialists, in rural areas. In the authors' view, expanding the use of telemedicine could help alleviate this problem. Telemedicine uses telecommunications technology to deliver medical services remotely, and includes phone calls, video chats, emails, and text messages. It is also known as telehealth, digital medicine, e-health, or m-health. Telemedicine is defined and regulated in Latvia by the 1997 Medical Treatment Law: the provision of remote healthcare services using information and communication technologies. It encompasses the secure transmission of medical data and information necessary for treatment in text, sound, images, or other formats.

Telemedicine offers several advantages: accessibility, by providing care to patients in remote regions; cost reduction for both patients and providers; experience sharing, which facilitates knowledge exchange among professionals; and remote consultations for patients with disabilities. Moreover, telemedicine includes the use of artificial intelligence and advanced technologies.

The main benefits of robotics in medicine:

1. Surgical precision and safety: Robots allow complex surgeries to be performed with high precision, smaller incisions, less blood loss, and a lower risk of infection.



2. Faster recovery: Thanks to minimally invasive surgery, patients recover faster after operations, shortening hospital stays and post-operative pain.
3. Rehabilitation and mobility: Robotic exoskeletons and assistive devices help patients with movement disorders regain mobility and perform rehabilitation exercises.
4. Pharmacy automation: Robots accurately prepare and dose medications, reducing the risk of errors and freeing up pharmacists' time for other tasks.
5. Support in daily care: Robots can help hospital staff perform routine tasks, such as transporting materials, thereby improving work efficiency.

By incorporating robotics and artificial intelligence into healthcare, medical staff can be relieved, allowing them to perform other duties. Artificial intelligence is increasingly entering medicine, helping to achieve better patient care outcomes and a higher quality patient experience. However, along with many benefits, it also creates challenges—the need for qualified specialists to work with artificial intelligence, and the desire of patients and medical staff to include artificial intelligence in the care process.

Traumatologist and orthopedist Professor Jumtiņš from Riga Stradins University argues:

The possibilities for improving artificial intelligence are endless and are not yet fully understood. But the most important thing is that artificial intelligence is only an assistant, because it will not be able to replace a doctor, especially a surgeon, or a teacher, 100%. AI is absolutely objective data; its interpretation, while in treating patients, we often have to approach it subjectively, sometimes even intuitively. This is what gives the result. (Ričika et al., 2025)

The current Latvian Minister of Health, Hosams Abu Meri, points to the prospects of telemedicine: “As a partial solution to the lack of human resources, the wider use of telemedicine, which could also be used in rehabilitation” (“Hosams Abu Meri telemedicīnai,” 2023).

There are also disadvantages to telemedicine, for example, there is an increased risk of errors, as remote consultations may lead to misunderstandings; telemedicine cannot replace physical examinations, as important diagnostic elements may be missed; regulatory changes are needed, as current laws may need to adapt to reflect telemedicine operation; and the time burden on doctors, as managing remote consultations can be challenging for healthcare providers.

Many doctors believe that direct contact with patients is preferable to remote consultation, especially for children who may have difficulty articulating their problems. Older people are often reluctant to use modern technology. Looking ahead, there will likely be many complex legislative issues that need to be addressed, such as accountability if a robot makes a mistake during an operation and determining who will be responsible.

For example, Madara Kalve, who is a physical and medical rehabilitation physician from Riga Stradins University, Faculty of Residency, conducted a study on the opinion and attitude of Latvian residents towards the use of telemedicine in healthcare (Kalve, 2024). The conclusion of the study confirms the potential of telemedicine, which is enormous, and its thoughtful integration with in-person services can improve conditions for both medical professionals and make services more accessible to patients, thus improving the healthcare system as a whole. The results indicate a positive opinion and readiness to use telemedicine

services among residents of all age groups, which confirms that the time is right for the implementation of telemedicine on a comprehensive level. In order to fully realise the potential, it will be necessary to address technical, legal, and ethical challenges, which may differ for each specialty.

According to the authors' view, another potential solution to the workforce problem is to consider shortening residency programmes in certain specialties. Furthermore, this proposal should be thoroughly evaluated by the Ministry of Health in collaboration with relevant stakeholders, including medical associations.

## **6. Empowering the Future: Approaches for Attracting and Training Young Resident Doctors**

It is important for the country to train young resident doctors, who study in an accredited professional residency training programme in medicine to obtain a speciality and who secure an employment relationship with the medical institution that implements their training programme, whereupon they provide healthcare services under the supervision of a doctor who holds a certificate and is registered in the Register of Healthcare Practitioners.

“Residency” is the education of a doctor in an employment relationship with a medical institution providing an educational programme in order for that doctor to acquire a speciality in accordance with an accredited professional residency training programme in medicine. An essential part of medical education and a prerequisite for obtaining a medical certificate, residency entitles a doctor to practice fully and independently in their speciality.

The legal status of a resident is determined by the Cabinet of Ministers Regulation No.617 of 24 September 2024: “The competence of medical practitioners and students studying medical education programmes in medical practice and the extent of theoretical and practical knowledge of these persons” (Cabinet of Ministers, 2024b). Clause 7 of these regulations stipulates: a resident who is studying a basic specialty, in the first and second years of residency, in accordance with the educational program, exercises a set of professional independence and responsibility under the direct supervision of a specialist certified in the relevant specialty, documenting the clinical experience gained. Clause 8 of these regulations stipulates that a resident, under the guidance of a certified specialist in the relevant specialty, in accordance with the educational program, implements a set of professional independence and compliance, documenting the acquired clinical experience—8.1.: starting from the third year of study, a resident who is studying a basic specialty; or 8.2.: a resident who is studying a subspecialty or additional specialty.

According to this Regulation, the scope of residents' independent work shall be determined by the head of the medical institution on the basis of an assessment of the theoretical knowledge and professional skills acquired by the resident during a study programme, conducted by the head of the relevant residency study programme and a specialist certified in the relevant speciality with at least five years' experience in that speciality after obtaining a medical practitioner's certificate. Following the administrative framework, it could be stressed that the minimum duration of a residency training programme for a person who has already acquired the profession of “doctor” to be eligible for authorisation to practice medicine independently, in accordance with their chosen competence, and after completing a full-time medical study programme, is set separately for each basic speciality of the medical profession. The scope of a resident doctor's independent professional work shall

be determined by the head of the appropriate medical institution based on an assessment of the theoretical knowledge and professional skills acquired by the resident doctor, which is conducted by a certified, trained specialist in the relevant speciality (Slokenberga et al., 2015, p. 277).

The procedure for financing a doctor's residency and the procedure for recovering the associated funding shall be determined by Cabinet Regulation No. 685 of 30th August 2011, being the Procedure for the Admission, Distribution, and Funding of a Residency. Paragraph 3 of Regulation No. 685 states the following:

The Ministry of Health shall calculate the number of residency places to be financed from the State budget based on the following data: (1) information provided by medical institutions on the number of doctors needed, (2) the number of doctors not working in their main job, (3) the number of unemployed doctors, (4) the number of doctors expected to reach retirement age within the next five years, (5) a mutual analysis of statistical data on the provision of doctors in European Union Member States, (6) the demographic situation and development projections, and (7) projections of the number of healthcare practitioners for full-time workloads. (Cabinet of Ministers, 2011)

Paragraph 28 of these regulations provides that a person whose residency training was financed from the state budget shall, within five years after completing the residency, be in an employment relationship in the relevant medical specialty for three years within the framework of normal working hours (including the sum of the years) in a medical institution established by a public body within the territory of Latvia: in a family doctor's practice, in the Health Inspectorate, or in the Centre for Disease Prevention and Control. Alternatively, they may be employed by a higher education institution in pedagogical or scientific work in the field of the relevant specialty, continue their doctoral studies, or carry out scientific work in a state scientific institute in the field of the relevant specialty.

The mechanism that prepares young doctors in Latvia is good enough for the purpose. However, many young doctors do not end up in the public sector after their residency; they end up in the private sector instead. The Young Doctors' Association underlines the above regulatory framework as a reason for emigration, which stipulates that young doctors must work for three years in the public sector after completing a residency. In this regard, the opinion of the Young Doctors' Association states:

This violates the free movement of labour and severely restricts a young doctor's choice of future workplace. For example, if a young doctor decides to go for an internship or further research abroad after their residency, they will have to reimburse [the state for] their residency expenses. The Latvian Young Doctors' Association believes that such attempts to forcibly keep young specialists in the country only encourage the current and future emigration of residents and exacerbate the shortage of doctors in Latvia. These Cabinet Regulations have been in force for several years, and reality has shown that such coercive restrictions do not work in the long term and will not retain young professionals in the country. ("Jauno Ārstu asociācija," 2019)

However, when young professionals, faced with the prospect of having to refund the state budget for the investment spent on their education or to work for a certain period, believe that their right to freedom of choice of occupation is being violated, and could in fact even be considered as forced labour. Furthermore, according to Article 106 of the Constitution of Latvia (The Constitution of the Republic of Latvia, 1922):

Everyone has the right to freely choose the occupation and workplace that suit their abilities and qualifications. Forced labour shall be prohibited. Involvement in the elimination of disasters and their consequences and employment in accordance with a court ruling shall not be considered forced labour.

The Constitutional Court (2012) concluded that the regulatory framework established by the Cabinet of Ministers complies with the Constitution:

The Concluding statement: “First, according to Regulation No. 120 and Regulation No. 972, a person could choose the means for funding their studies during their residency. The Constitutional Court emphasises that the regulatory enactments do not impose an obligation on a person, but only the right to conclude a contract governed by public law on the payment of the individual’s training in residency from the State budget funds. An individual can also pay for their residency training themselves or use the resources of other natural or legal persons, without being obliged to work for a specific medical institution for three years after completing their residency or to reimburse the state budget for the funds spent on their training. Secondly, if an individual has chosen to study in a residency at public expense, they are given the opportunity to choose which of several medical institutions to work in for the next three years. Thirdly, if an individual wishes to work in another medical institution in Latvia or to leave Latvia, they can reimburse the state budget funds spent on their residency training. In addition, these funds shall be repaid over five years, in monthly instalments and without a penalty, instead of being repaid in full immediately. Persons enrolled in a residency program who freely choose to enter a training contract for the payment of training from the State budget funds simultaneously assume certain obligations towards the State. This contract, governed by public law, is a win-win situation: on the one hand, the State commits to paying for the individual’s training during their residency, and, on the other, the individual commits to working in the public health system for three years after completing their residency. Thus, the term ‘Harm to the rights of the individual’ should only be used conditionally in this case. The State has the right to require a person to fulfil the obligations they have undertaken. However, the benefit of this restriction on the right of an individual for the whole society is the possibility to receive healthcare services guaranteed under Article 111 of the Constitution or to recover the State budget funds for the investment in the training of the individual. Consequently, the benefit to society outweighs the fundamental right of the individual contained in the contested regulation.”

This judgment of the Constitutional Court notwithstanding, there is an opinion that, in any event, the obligation to work in the public sector for three years after completing one’s residency, as laid down in Cabinet of Ministries Regulation No. 685, is contrary to European Union law, which provides for the free movement of labour within the EU. On the one hand, one could agree that there is a certain contradiction with European Union law, which provides for the free movement of labour (Jirgensons, 2024, p. 159). However, on the other hand, it is reasonable for the state, having funded an individual’s education, to oblige the individual to work for a certain period in the public sector in a critical field such as medicine. Article 111 of the Constitution provides that the state shall protect human health and guarantee a minimum level of medical assistance to everyone. The framework established by Regulation No. 685 is one of the mechanisms by which the State seeks to ensure the existence and accessibility of medical practitioners and the services they provide to the population. In the author’s view, the 3-year compulsory employment period should not be regarded as disproportionately long.

## 7. Conclusions

The EU legal framework facilitates free movement of labour and recognition of professional qualifications, enabling cross-border labour flows from lower-wage to higher-wage regions. Latvia's 2004 EU accession has significantly affected its labour market, including the emigration of healthcare professionals, which challenges the delivery of healthcare services.

The authors' analysis of horizontal determinants of emigration reasons indicates that it is driven by financial considerations, search for better career opportunities, access to advanced technologies, social security, and more favourable working conditions. These pressures are intensified by insufficient public funding and an aging workforce, with additional strain stemming from regional disparities in the distribution of health services.

The assessment of vertical determinants of the Health Policy implications in Latvia requires proactive government action to strengthen the health system and adopt preventive measures to reduce outward flows. Government strategies should balance mobility with the maintenance of human resources by aligning training with labour market needs and promoting sustainable practices. According to the authors, this includes reconsidering residency requirements to improve retention while ensuring compatibility with EU labour mobility rules and carefully evaluating proposals to adjust repayment of study costs and reimbursement in health service shortage areas. The legal mechanism, where residents who have studied with state budget funds must work for three years in the public sector, is a way for the state to address the availability of human resources in medicine and ensure people have access to medical services.

Given human resource constraints, expanding telemedicine, which is considered one of the possible solutions for securing human resources, and responsibly integrating robotics and artificial intelligence can mitigate regional shortages and improve health care. Public and private funding should ensure these technologies support, rather than replace, high-quality care, while maintaining equity and accessibility.

The restructuring reforms of healthcare both in the EU and in Latvia, coupled with demographic, technological, economic, and institutional changes, have an impact on the desires and wants of healthcare workers as well as on the nature and scope of their work and contributions to the healthcare industry.

The authors' research hypothesis is correct, and the large-scale emigration of healthcare practitioners from Latvia results primarily from unfavourable working conditions and insufficient state retention measures. Strengthening legal frameworks and adopting technological innovations, such as telemedicine, can help balance doctor mobility and ensure sustainable public healthcare delivery.

The study confirms that without timely, evidence-based interventions that address remuneration, working conditions, professional development, and regional distribution, Latvia risks compromising universal access to timely, high-quality healthcare for the population. A comprehensive, coordinated strategy that combines financial investment, retention incentives, workforce planning, and responsible adoption of digital innovations is essential to stabilise and strengthen the health system.

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## Conflict of Interests

The authors declare no conflict of interest.

## Data Availability

Data is available from the corresponding author upon reasonable request.

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## About the Authors



**Ģirts Jirgensons** is a PhD candidate in economics and business studies at the Riga Stradins University, Latvia. His research and publications cover the business legal environment in the EU and Latvia, employment policies, legal issues related to labour disputes, and residency programmes for young medical doctors. He works at the Ministry of Health, in the legal department.



**Karina Palkova** is a lead researcher, PhD, and associate professor at Riga Stradiņš University, Latvia. Her research and publications focus on medical law and human rights. Dr. Palkova has served as the principal investigator for several national and international research projects. She has also held the position of Ombudsperson of the Republic of Latvia.

# Transnational Ties and Ukrainian Students' Social Inclusion in Slovakia

Martina Chrancokova <sup>1</sup>  and Ludmila Mitkova <sup>2</sup> 

<sup>1</sup> Centre of Social and Psychological Sciences, Slovak Academy of Sciences, Slovakia

<sup>2</sup> Faculty of Management, Comenius University Bratislava, Slovakia

**Correspondence:** Martina Chrancokova ([martina.chrancokova@gmail.com](mailto:martina.chrancokova@gmail.com))

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## Abstract

Social ties play an important role in migration and everyday life, while digital media have reshaped their form and reach. This article examines how digital networks and social ties shape the social inclusion of Ukrainian students in Slovakia in the context of post-2022 war-related mobility. The analysis is based on an exploratory pilot questionnaire survey conducted in 2025 among 85 Ukrainian students enrolled as full-time international students at the Faculty of Management, Comenius University Bratislava. The findings show that students maintain frequent transnational contact with family and friends in Ukraine and rely heavily on digital communication, especially Telegram groups, to sustain these ties and access practical information about life and study in Slovakia. At the same time, local social ties in Slovakia are more limited and are formed predominantly within co-national circles rather than with members of the host society. Most respondents report moderate to relatively strong social inclusion, although many remain uncertain about their long-term future in Slovakia. The findings show the ambivalent role of digital networks in the social inclusion process. They reduce isolation, support everyday functioning, and sustain transnational continuity, but they do not necessarily foster deeper local belonging or the formation of bridging ties with members of the host society. The study contributes to research on international student mobility, digital migration, and social inclusion by showing how digitally sustained transnational ties can support everyday adaptation, while also limiting the development of deeper host-society embeddedness among students whose mobility is shaped by conflict.

## Keywords

digital networks; international student mobility; Slovakia; social inclusion; transnational ties; Ukrainian students

## 1. Introduction

International student mobility (ISM) has become a central feature of contemporary migration processes, with important implications for both host societies and migrants themselves (Beech, 2015). Beyond their role as temporary participants in higher education systems, international students represent a potential future workforce and contribute to the social and economic development of receiving countries. A key dimension shaping these trajectories is social inclusion, understood as the extent to which individuals feel accepted, supported, and able to participate in the social life of the host society (Coombs et al., 2013; Cordier et al., 2017).

In the case of Ukrainian students, mobility acquired a distinct character after the outbreak of the war in Ukraine in 2022. Studying abroad became not only a strategy of educational advancement but also a response to insecurity and disruption. Slovakia emerged as a significant destination due to its geographical proximity, linguistic similarity, and relatively accessible higher education system (Pílová & Bahna, 2025).

Within this context, social ties shape both mobility decisions and everyday experiences in the host country (Beech, 2015). These ties are increasingly mediated by digital platforms, which enable cross-border communication and create transnational social spaces (Thinyane et al., 2023). Digital networks can reduce isolation, sustain emotional continuity, and provide practical information, yet their role in fostering deeper local belonging remains ambiguous.

Existing research has extensively examined ISM and the importance of social networks in migration processes. However, less is known about how digitally mediated social ties shape the subjective experience of social inclusion, particularly among students whose mobility is influenced by conflict. More empirical attention is needed to understand how digitally sustained transnational ties relate to the formation, limitation, or selective development of local social ties in the host society.

Recent scholarship has also emphasised that ISM should not be understood as a single, uniform category, but rather as a differentiated field shaped by unequal conditions of mobility, institutional structures, and social positioning (Brooks, 2022). This perspective is particularly important in contexts shaped by war and displacement, where student mobility may combine educational aspirations with protection-seeking motives and forms of forced or constrained movement (Olumba, 2025). Examining Ukrainian students in Slovakia through this lens makes it possible to understand social inclusion not simply as a matter of institutional participation in higher education, but as a process shaped by the interaction between conflict-related mobility, transnational attachments, digitally mediated communication, and local relationship-building.

This article examines how digital networks and social ties shape the social inclusion of Ukrainian students in Slovakia, with particular attention to the relationship between digitally mediated transnational connections and the formation of local ties in the host society. It argues that digital networks function as an important infrastructure of transnational continuity and everyday adaptation, but do not automatically foster bridging ties or deeper local belonging. The study contributes to debates on migration, digitalisation, and the social inclusion of international students by showing that social inclusion may be present at the level of everyday functioning while remaining more limited at the level of host-society embeddedness.

## 2. Theoretical Framework

### 2.1. Social Inclusion and ISM

Social inclusion has increasingly been conceptualised as a multidimensional and subjective process that reflects individuals' ability to participate fully in social, economic, and community life (Coombs et al., 2013; Cordier et al., 2017). In the context of ISM, social inclusion extends beyond formal access to education and includes everyday experiences of belonging, recognition, and social support within the host society.

ISM has often been examined as a form of highly skilled migration, with students understood as both temporary migrants and potential long-term members of host societies (Beech, 2015). Recent research also stresses that ISM is internally differentiated and shaped by broader inequalities, geopolitical conditions, and different meanings of mobility (Brooks, 2022). Student migration should therefore be understood as a socially embedded form of mobility in which integration depends not only on institutional access to education, but also on the quality of social relationships developed in the host country.

From this perspective, social inclusion is closely linked to the structure and quality of social ties. Meaningful relationships within the host society are associated with stronger wellbeing, attachment, and potential long-term settlement. At the same time, transnational and local ties may shape inclusion differently: transnational ties provide continuity, emotional security, and practical support, while local ties are more directly related to host-society embeddedness and longer-term belonging. This distinction is particularly important for students whose mobility is shaped by conflict and displacement.

### 2.2. Social Ties: Strong and Weak Connections

The importance of social ties in migration processes is well established, particularly through Granovetter's (1973) theory of strong and weak ties. Strong ties, such as family and close friends, provide emotional support, stability, and security, while weak ties bridge new social circles and provide access to information, opportunities, and resources.

In ISM, both types of ties play complementary roles. Strong ties are often maintained transnationally and connect students with their country of origin, while weak ties are more commonly formed in the host society and support access to local social and professional networks (Beech, 2015).

However, the balance between these ties is not always stable. Strong reliance on transnational ties may provide emotional comfort and continuity, but it may also reduce opportunities or incentives to develop wider local connections. Transnational ties may therefore coexist with more limited local embeddedness in the host society.

### 2.3. Digital Networks and Transnational Social Spaces

Recent research highlights the growing importance of digital technologies in migration experiences. Digital platforms enable migrants to maintain cross-border contact with family and friends and create transnational social spaces (Thinyane et al., 2023). Research on transnational families shows that digital media help sustain

emotional closeness, everyday presence, and connection across distance (Madianou, 2019; Wilding et al., 2020). Digital communication, therefore, functions as both a technical infrastructure and a social and affective resource for sustaining transnational relationships.

For contemporary students, particularly Generation Z, digital communication is central to everyday life. Social media and messaging platforms help maintain relationships and provide practical information on academic guidance, housing, administration, and employment. These functions are especially relevant for international students, for whom digital platforms may reduce uncertainty during adaptation to a new institutional and social environment.

Research on transnational youth has also shown that young people's mobility, attachment, and cross-border sociality cannot be reduced to a simple opposition between origin and destination countries. Rather, these processes involve more fluid and relational patterns of belonging and movement (Mazzucato & Haagsman, 2022). Digital ties may therefore play an important role in shaping how young people negotiate identity, belonging, and social relations across borders.

#### ***2.4. Digital Ties and Social Inclusion: An Ambivalent Relationship***

Digital networks clearly support the maintenance of transnational ties, but their role in fostering local social inclusion is more ambiguous. On the one hand, digital platforms can reduce feelings of isolation, provide access to resources, and facilitate initial contact with new social groups. They may also reinforce existing social circles, particularly co-national communities, and reduce incentives to engage with the host society.

This ambivalence reflects a broader tension between bonding and bridging social capital. Digitally mediated communication tends to strengthen bonding ties within familiar groups, including family members, friends, and co-national communities. By contrast, the formation of bridging ties with members of the host society often requires sustained interaction across linguistic, institutional, and social boundaries, and may therefore depend more strongly on face-to-face contact and structured institutional support. This distinction is important because digital networks may support social inclusion in some respects, especially by reducing isolation and providing practical information, while doing less to foster broader host-society embeddedness.

Digital networks can function as a resource for adaptation, while also supporting transnational continuity more strongly than deeper local embeddedness. Understanding this dual role is particularly important in the case of students whose mobility is shaped by conflict, as their reliance on transnational ties may be especially strong.

Building on these theoretical considerations, this article examines how digital networks and social ties shape the social inclusion of Ukrainian students in Slovakia, with particular attention to the relationship between transnational continuity and selective development of local ties. This framework makes it possible to distinguish analytically between the maintenance of bonding ties across borders and the more uncertain development of bridging ties in the host society, and to examine how both relate to subjective experiences of social inclusion.

### 3. Methodology

The methodology was designed to capture the relationship between digital communication, social ties, and subjective social inclusion within a clearly defined institutional setting. Given the exploratory character of the study, the aim was not to produce representative estimates for all Ukrainian students in Slovakia, but to identify key patterns that can clarify how transnational and local ties are experienced in one specific university context.

#### 3.1. *Research Design and Aim*

This study adopts a quantitative questionnaire-based design. As a pilot study, it is exploratory rather than explanatory: It does not aim to test causal relationships or produce statistically generalisable conclusions about all Ukrainian students in Slovakia. Instead, it identifies empirically grounded patterns in the relationship between digitally mediated transnational ties, local social relations, and subjective social inclusion.

#### 3.2. *Sample and Data Collection*

The research sample consisted of 85 respondents. A respondent was defined as a student from Ukraine who, at the time of data collection, was enrolled as a full-time international student at the Faculty of Management, Comenius University Bratislava. The core group of respondents consisted of students in the second year of a bachelor's degree programme, although the final sample also included students enrolled at other stages of study. In the Slovak higher education context, bachelor's studies normally last three years. This was considered important because second-year students had already spent a substantial period in the host-country study environment and were therefore more likely to have developed at least initial patterns of adaptation, communication, and social relations in Slovakia.

Data collection was conducted at a single institution, namely the Faculty of Management, Comenius University Bratislava. The questionnaire was administered online using Microsoft Forms and distributed through students' university email accounts. Participation was voluntary and anonymous. Before participation, respondents were informed about the academic purpose of the study, the anonymous nature of participation, and the confidential treatment of the data. Participation had no consequences for students' study obligations or academic evaluation. No personally identifiable information was collected or used in the analysis.

The recruitment combined the initial distribution of the questionnaire within the target student group and subsequent snowball sampling. Respondents who completed the questionnaire were invited to share it further with other eligible students at the same institution who met the study criteria. Data collection took place over a period of 52 days in 2025.

According to the institutional framework under which the study was conducted, formal ethics approval was not required for this type of anonymous questionnaire research.

Because the study focused on a specific institutional environment, the sample was intentionally relatively homogeneous. This homogeneity was not intended to represent the diversity of all Ukrainian students in

Slovakia, but to provide a more coherent basis for examining how students in a shared institutional setting experience digital communication, social ties, and social inclusion. Respondents were exposed to broadly similar academic structures, administrative procedures, and institutional conditions, which makes it possible to interpret differences in social ties and inclusion within a more clearly delimited context. At the same time, this design limits the external validity of the findings. The results should therefore be interpreted as exploratory evidence from one institutional case rather than as representative findings for the broader population of Ukrainian or international students in Slovakia.

### 3.3. Questionnaire Design

The questionnaire consisted of 37 items divided into seven thematic sections: socio-demographic characteristics, motivations for studying in Slovakia, social ties before and after migration, digital platforms and communication, employment and job search, life plans and social inclusion, and one final open-ended question. The items captured respondents' mobility trajectories, transnational and local relationships, digital communication practices, employment strategies, perceived inclusion, and future orientation. Closed-ended items included categorical, frequency, and five-point Likert-scale questions, complemented by open-ended responses on studying and living in Slovakia.

The questionnaire was created in Microsoft Forms and administered in Slovak. Since the respondents were enrolled in Slovak higher education, they were expected to possess sufficient knowledge of the Slovak language to complete the survey. At the same time, minor language-related misunderstandings cannot be entirely ruled out and should be considered when interpreting the findings, especially in relation to more abstract items concerning belonging and social inclusion.

### 3.4. Measurement of Social Inclusion

The subjective experience of social inclusion was measured using the Experiences of Social Inclusion Scale (ESIS), a standardised instrument developed by the Finnish Institute for Health and Welfare (n.d.; see also Leemann et al., 2022; Nousiainen & Leemann, 2024).

The ESIS was selected because the study focuses on subjective social inclusion rather than only on formal indicators of integration, such as enrolment, employment, or administrative status. This was important for the present research, as the article examines how students perceive belonging, support, agency, and participation in everyday life in Slovakia.

The scale consists of 10 items rated on a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). It captures multiple dimensions of social inclusion, including perceived meaning in life, agency, social belonging, and perceived support.

The ESIS score was calculated according to the recommended procedure (Finnish Institute for Health and Welfare, n.d.): The sum of all item scores (range 10–50) was adjusted by subtracting 10 and multiplying the result by 2.5, resulting in a final score ranging from 0 to 100. Higher values indicate a stronger sense of social inclusion.



### 3.5. Data Analysis

The analysis was primarily descriptive and aimed at identifying patterns in respondents' answers. Given the pilot nature of the study, the analytical strategy focused on identifying key tendencies and relationships rather than on testing causal hypotheses. This approach was chosen because the sample size and recruitment strategy do not support causal inference or population-level generalisation. Instead, the analysis uses descriptive statistics to examine how different forms of social ties, digital communication, and perceived inclusion are distributed within the sample and how these patterns relate to the main research aim. Descriptive statistics included arithmetic means, minimum and maximum values, and percentage distributions.

For selected thematic areas, composite indicators were constructed by averaging multiple related items. These indicators were used to compare the relative importance of different factors, such as the use of digital platforms or perceived social support.

To assess the reliability and structure of the ESIS scale, additional statistical analyses were conducted. Because the ESIS score serves in this study as the main summary indicator of subjective social inclusion, a brief assessment of its internal consistency and dimensional coherence in this pilot sample was considered methodologically necessary. This psychometric assessment was not intended to shift the study toward explanatory modelling, but to verify whether the scale could be used as a coherent descriptive indicator in this specific empirical context. Internal consistency was evaluated using Cronbach's alpha. Relationships between items were examined using Spearman's rank correlations, reflecting the ordinal nature of the data.

An exploratory factor analysis using principal axis factoring was performed to examine the latent structure of the scale. The suitability of the data for factor analysis was assessed using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity.

Open-ended responses were reviewed inductively and grouped into recurring themes in order to provide limited qualitative context for the interpretation of the survey findings. These responses were not treated as a separate qualitative dataset, but were used to clarify how respondents described issues such as safety, acceptance, discrimination, everyday well-being, and adaptation in their own words.

### 3.6. Limitations

This study has several limitations. First, the sample size is relatively small and was drawn from a single faculty at one university, which limits the generalisability of the findings. In addition, the institutional and programme-specific focus of the sample means that the results reflect the experiences of a specific student subgroup rather than the full diversity of Ukrainian students in Slovak higher education.

Second, the cross-sectional design captures respondents' experiences at a single point in time and does not allow for the analysis of changes over time.

Third, the use of a self-reported questionnaire may introduce response bias, particularly in relation to subjective assessments of belonging, support, and future plans. The recruitment procedure may also have introduced selection bias, as students with stronger peer networks or greater willingness to share their

experiences may have been more likely to participate. Finally, although the questionnaire was administered in Slovak, which corresponds to the respondents' study environment, potential language-related misunderstandings cannot be entirely ruled out. This is particularly relevant for more abstract items concerning social inclusion, belonging, and perceived acceptance in the host society.

Despite these limitations, the pilot nature of the study provides valuable initial insights into the role of digital networks and social ties in shaping the social inclusion of Ukrainian students in Slovakia and offers a basis for more extensive future research.

## 4. Results and Analysis

The results first describe the sample characteristics and then examine respondents' social ties, use of digital platforms, perceived social inclusion, and ESIS results.

### 4.1. Sample Characteristics

The sample consisted of 85 Ukrainian students enrolled as full-time international students at the Faculty of Management, Comenius University Bratislava. The average age of respondents was 19.96 years, and the sample included both male and female students in relatively balanced proportions (see Table 1).

**Table 1.** Socio-demographic data of respondents.

| Gender/Age | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Total      |
|------------|----|----|----|----|----|----|----|------------|
| Male       | 1  | 17 | 16 | 3  | 0  | 1  | 1  | 39 (45.9%) |
| Female     | 1  | 15 | 15 | 8  | 4  | 2  | 0  | 45 (52.9%) |
| Other      | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 1 (1.2%)   |
| Total      | 2  | 32 | 31 | 12 | 4  | 3  | 1  | 85 (100%)  |

Note: Author's own processing based on questionnaire survey data (2025).

The respondents were drawn from a shared institutional environment. Of the 85 respondents, 75 were enrolled in bachelor's degree programmes and 10 in master's degree programmes. This relatively homogeneous institutional profile is important for interpreting the findings, as it situates students within the same university setting, even though they were enrolled at different stages of study.

A key characteristic of the sample is its transnational family structure: Most respondents reported that their close family members remained in Ukraine, while only a minority lived with their family in Slovakia. This is important for the interpretation of the subsequent findings, as it suggests that students' everyday social worlds were structured across national borders from the outset. The continuing presence of family members in Ukraine helps explain why transnational communication and digitally mediated contact occupy such a central place in respondents' everyday lives.

Migration-related motivations also provide important context for the sample. The most highly rated reasons for choosing Slovakia were the security situation, lower costs of education, and linguistic proximity (see Table 2). These findings suggest that studying in Slovakia was shaped not only by educational considerations, but also by the search for stability and safety. This supports the interpretation of respondents' mobility as

partly conflict-shaped: Educational aspirations were present, but they were embedded in a broader context of insecurity, proximity to Ukraine, and the practical need to establish a manageable everyday life in the host country.

**Table 2.** Motives for migration to Slovakia.

| Motives for migration to Slovakia             | Mean of Likert scale (1–5) | Ranking |
|-----------------------------------------------|----------------------------|---------|
| Security situation                            | 4.24                       | 1       |
| Lower cost of education                       | 4.13                       | 2       |
| Linguistic proximity                          | 3.84                       | 3       |
| Employment opportunities during studies       | 3.55                       | 4       |
| Geographic closeness to Ukraine               | 3.41                       | 5       |
| Lower living costs                            | 3.14                       | 6       |
| Recommendations of family and friends         | 3.08                       | 7       |
| Online information about studying in Slovakia | 3.00                       | 8       |

Note: Author's own processing based on questionnaire survey data (2025).

## 4.2. Structure of Social Ties

The results show that Ukrainian students maintain strong transnational ties with their country of origin. Communication with family members in Ukraine is particularly frequent, with daily contact representing the dominant pattern. Contact with friends in Ukraine is also common, although less frequent than communication with family (see Table 3).

At the same time, respondents reported forming social connections in Slovakia. However, these ties are predominantly oriented toward other Ukrainians rather than Slovaks. Only a small number of respondents indicated that they had found close Slovak friends, while some had not yet formed close friendships in Slovakia at all.

Perceived social support reflects this same pattern. Support from family in Ukraine received the highest ratings, whereas support from family in Slovakia was much lower (see Table 4). Support from friends in Slovakia was evaluated more positively than support from family in Slovakia, suggesting that peer relationships may partly compensate for the absence of close family members in the host country.

Overall, the findings indicate that respondents rely primarily on strong transnational ties, while local support networks in Slovakia remain more limited, more selective, and less embedded in the host society beyond co-national circles. The open-ended responses were broadly consistent with these patterns and most often referred to safety, proximity to Ukraine, and the presence of existing contacts that could facilitate adaptation in Slovakia. The recurring themes in the open-ended responses suggest that transnational and pre-existing contacts were valued not only emotionally, but also pragmatically, as resources that reduced uncertainty and facilitated adaptation after arrival.

This pattern is important for interpreting social inclusion in the sample. Respondents were not socially isolated, but their embeddedness was structured mainly through transnational and co-national relationships. They had access to meaningful support, yet this support was not necessarily located within broader

host-society networks. This helps explain why relatively positive everyday adaptation may coexist with limited local belonging or bridging ties in Slovakia.

**Table 3.** Frequency of communication with family and friends in Ukraine.

| Typology of responses         | Family     | Friends    |
|-------------------------------|------------|------------|
| Every day                     | 51 (60%)   | 29 (34.1%) |
| Several times per week (2–3x) | 20 (23.5%) | 20 (23.5%) |
| At least once per week        | 13 (15.3%) | 9 (10.6%)  |
| At least once per month       | 0 (0%)     | 12 (14.1%) |
| Less frequently               | 1 (1.2%)   | 15 (17.6%) |
| Total                         | 85 (100%)  | 85 (100%)  |

Note: Author's own processing based on questionnaire survey data (2025).

Most respondents reported having friends in Slovakia, although these were predominantly other Ukrainian students. Five respondents found close friends among Slovaks, eight respondents found good friends of a nationality other than Ukrainian and Slovak, and five respondents have not yet found good friends in Slovakia. In Table 4, students rated different sources of perceived social support on a Likert scale from 1 to 5.

**Table 4.** Assessment of social support in Slovakia.

| Social support           | Mean score on a 1 to 5 Likert Scale |
|--------------------------|-------------------------------------|
| From family in Ukraine   | 4.07                                |
| From friends in Slovakia | 3.36                                |
| From friends in Ukraine  | 3.22                                |
| From family in Slovakia  | 2.19                                |

Note: Author's own processing based on questionnaire survey data (2025).

One illustrative response captures this connection between safety, proximity, and pre-existing contacts:

The main reason for my decision was my parents' concern for my safety. I chose Slovakia because it is close to Ukraine and my parents have friends here, having lived here for several years in the past. This made it easier for me to adapt, and Slovakia was the best choice for living and studying. (respondent 69, female, 20 years old)

The structure of respondents' social ties, therefore, points to the importance of both proximity and distance. Family and pre-existing contacts remained important sources of emotional security and practical support, even when they were located outside Slovakia. This makes the role of digital platforms especially relevant, as they provide the means through which many of these transnational and co-national connections were maintained in everyday life.

### 4.3. Use of Digital Platforms

Digital platforms play a central role in maintaining social ties and managing everyday life. As shown in Table 5, Telegram clearly dominated as the primary communication tool both before and after migration to Slovakia.

WhatsApp increased in importance after arrival, while the use of Viber declined. Instagram also remained an important communication platform in both periods.

The results further show that digital platforms are used primarily to maintain contact with family and friends in Ukraine and to obtain information about studies and everyday life in Slovakia (see Table 6). By contrast, their role in making new friends is less pronounced.

The widespread use of online groups, especially on Telegram, suggests the existence of digitally mediated communities that connect Ukrainian students and facilitate the exchange of practical information. In this sense, digital platforms function not only as communication tools but also as infrastructures of transnational support and orientation.

This pattern points to the ambivalent role of digital networks in students' everyday lives. Digital platforms helped students reduce uncertainty, access information, and maintain emotional contact, but their main functions remained oriented toward transnational and co-national ties rather than new bridging ties with members of the host society. They therefore supported inclusion mainly through everyday coping and practical orientation, while their contribution to deeper local embeddedness remained limited.

**Table 5.** Use of digital platforms before and after migration.

| Digital Platform | Present (living in Slovakia) | Before arriving in Slovakia | Difference |
|------------------|------------------------------|-----------------------------|------------|
| Telegram         | 4.82                         | 4.71                        | 0.11       |
| Instagram        | 3.48                         | 3.56                        | −0.08      |
| TikTok           | 2.32                         | 2.24                        | 0.08       |
| WhatsApp         | 2.07                         | 0.99                        | 1.08       |
| Email            | 1.11                         | 0.76                        | 0.35       |
| Viber            | 1.52                         | 2.28                        | −0.76      |
| Messenger        | 0.86                         | 0.42                        | 0.44       |

Note: Author's own processing based on questionnaire survey data (2025).

Telegram remained the dominant communication platform both before and after migration (see Table 5), and the majority of respondents also reported participating in online groups, particularly on Telegram. This reinforces the interpretation that Telegram functions not only as an interpersonal communication tool but also as a shared information space for Ukrainian students in Slovakia.

Students primarily use digital platforms to maintain contact with family and friends in Ukraine and to obtain information about studying and living in Slovakia. By contrast, using digital platforms to make new friends or find employment is less important (see Table 6).

Employment-related uses of digital platforms were present, but clearly secondary to communication and information-seeking. In this respect, digital media appear to function less as tools for building new local networks and more as mechanisms that sustain existing transnational and co-national ties.

**Table 6.** Use of digital platforms and their functions.

| Use of digital platforms                  | Mean score on a 1 to 5 Likert Scale | Ranking |
|-------------------------------------------|-------------------------------------|---------|
| Maintain contact with family in Ukraine   | 4.53                                | 1.      |
| Maintain contacts in general              | 4.46                                | 2.      |
| Obtain information about studies          | 4.25                                | 3.      |
| Maintain contact with friends in Ukraine  | 4.18                                | 4.      |
| Obtain information about life in Slovakia | 3.92                                | 5.      |
| Finding a job                             | 3.55                                | 6.      |
| Making new friends                        | 3.36                                | 7.      |

Note: Author's own processing based on questionnaire survey data (2025).

This pattern is directly relevant to understanding respondents' social inclusion. Digital platforms helped students remain connected, informed, and oriented in everyday life, but they did not substantially expand local social networks beyond familiar or co-national circles.

#### 4.4. Social Inclusion

The overall level of perceived social inclusion among respondents can be described as moderate to relatively strong. On average, students reported a moderately positive sense of social inclusion in Slovak society, although this sense of inclusion was not equally reflected across all dimensions of their everyday lives.

This result should be interpreted carefully. A moderate to relatively strong sense of inclusion does not necessarily mean that respondents were deeply embedded in Slovak society. Rather, it suggests that many students were able to manage everyday life, access support, and feel a certain degree of acceptance in the host environment. At the same time, the more limited formation of local bridging ties indicates that subjective inclusion may coexist with relatively narrow social networks and uncertain long-term belonging.

At the same time, many respondents remained uncertain about their long-term future in Slovakia. This uncertainty is important because it suggests that social inclusion is not necessarily experienced as a stable long-term orientation toward the host society. Instead, it appears to be shaped more strongly by students' ability to manage everyday life, maintain support networks, and navigate study and practical conditions in the present.

Among the factors influencing life in Slovakia, respondents rated housing, social connections, and language as the most important (see Table 7). These findings indicate that inclusion is shaped not only by formal participation in education, but also by everyday living conditions and the quality of interpersonal relations. This suggests that social inclusion is experienced unevenly across different dimensions of students' lives.

Open-ended responses clustered mainly around themes of safety, acceptance by the host society, discrimination, and opportunities for leisure. References to safety were generally framed positively, with respondents emphasising the importance of living and studying in a more secure environment than the one they had left. Comments on acceptance and discrimination were more ambivalent: Several respondents described Slovakia as a generally manageable and welcoming environment, while also noting occasional

experiences of being judged through the lens of nationality or origin. References to leisure and everyday life pointed to the importance of having opportunities for normal social routines outside the university setting. Together, these responses indicate that social inclusion is experienced in a broader sense, extending beyond academic adaptation to encompass everyday well-being, recognition, and the relative absence of exclusion in daily life.

**Table 7.** Factors influencing life in Slovakia.

| Factors influencing life in Slovakia | Mean score on a 1 to 5 Likert Scale | Ranking |
|--------------------------------------|-------------------------------------|---------|
| Housing                              | 4.08                                | 1.      |
| Social connections                   | 3.92                                | 2.      |
| Language                             | 3.85                                | 3.      |
| Administration and bureaucracy       | 3.62                                | 4.      |
| Seeking employment                   | 3.58                                | 5.      |

Note: Author's own processing based on questionnaire survey data (2025).

One illustrative quotation is presented below:

I evaluate studying in Slovakia positively and it has personally brought me great benefits. I especially appreciate that, in most cases, effort, results, and personal approach were valued more than nationality or origin. At the same time, however, there are still individuals who judge a person first by their background and only afterwards by their abilities and qualities. (respondent 74, female, 23 years)

Overall, these findings indicate that respondents' social inclusion is experienced more strongly through everyday coping, functional adaptation, and perceived acceptance than through stable local belonging or long-term settlement. This reinforces the broader pattern identified in the previous sections: Students are not socially disconnected, but their inclusion is supported mainly by transnational, co-national, and practical forms of support rather than by deeper embeddedness in host-society networks.

#### 4.5. ESIS Results

The ESIS results provide a more focused view of respondents' subjective social inclusion and complement the preceding analysis of social ties, digital communication, and everyday adaptation. As the ESIS score serves here as the main summary indicator of subjective social inclusion, this section reports both its substantive results and its reliability in this pilot sample.

The ESIS results support the overall pattern of moderate to relatively strong social inclusion. Respondents reported the highest agreement with agency-related items, while lower scores appeared for belonging and being needed by others. This suggests that many students felt capable of managing everyday life in Slovakia, but that functional adaptation did not necessarily translate into deeper relational embeddedness. The scale showed high internal consistency (Cronbach's  $\alpha = 0.883$ ), and exploratory factor analysis supported the use of a predominantly one-dimensional composite score. Taken together, these findings suggest that the ESIS provided a reliable overall indicator of subjective social inclusion in this pilot sample.



Overall, the ESIS results are consistent with the broader analysis presented above. They show that respondents generally reported a positive or moderately positive sense of inclusion, but that this inclusion was stronger in relation to agency and everyday functioning than in relation to belonging and being needed by others. This pattern supports the interpretation that social inclusion in the sample is present, but unevenly developed across different dimensions of students' lives.

## 5. Discussion

This study examined how digital networks and social ties shape the social inclusion of Ukrainian students in Slovakia. The findings point to a specific configuration of transnational, co-national, and local relationships in which digital technologies play a central mediating role. Digital platforms appeared particularly important for sustaining transnational continuity, maintaining co-national support, and supporting everyday adaptation, while their role in fostering new bridging ties with members of the host society appeared more limited.

This configuration is central to the article's argument. Social inclusion in this context cannot be understood simply as either successful or unsuccessful integration. Rather, it appears as a partial and uneven process in which students may develop functional adaptation, access to support, and a sense of everyday security while still having limited bridging ties and weaker local embeddedness. Digital networks are therefore not external to the inclusion process; they actively shape the form that inclusion takes.

First, the results indicate that student mobility in this context was strongly shaped by external conditions, especially the security situation in the country of origin. The high importance assigned to safety, lower education costs, and linguistic proximity suggests that migration to Slovakia combined educational aspirations with protective, stabilising, and practical motivations. This supports recent findings arguing that ISM should not be treated as a uniform category, but as a differentiated field shaped by unequal geopolitical, social, and institutional conditions.

The study, therefore, adds to the research on ISM by highlighting a case in which educational mobility is closely entangled with war-related insecurity. Ukrainian students in Slovakia cannot be considered only as conventional international students pursuing educational or career opportunities abroad, nor only as displaced young people seeking safety. Their mobility combines both dimensions, and this hybrid position has implications for social inclusion. Students' orientations toward the host society are shaped simultaneously by academic participation, transnational family ties, uncertainty about return or onward mobility, and the need for everyday stability.

Second, the findings suggest that students' social ties remain strongly transnational. Frequent communication with family members in Ukraine and the high perceived level of support derived from these ties indicate the continuing importance of strong ties across borders. At the same time, local ties in Slovakia appear more limited and selective, with social relations often concentrated within co-national circles rather than extending more broadly into the host society. This pattern can be interpreted through Granovetter's (1973) distinction between strong and weak ties: Strong ties provide emotional security and continuity, while the development of wider weak ties in the host society appears more constrained.

This distinction also helps clarify why the presence of social support should not be interpreted as equivalent to full local inclusion. Respondents clearly had access to meaningful relationships, but these relationships

were often located either across borders or within familiar linguistic and national communities. Such ties can provide stability and reduce the emotional costs of mobility, but they do not necessarily create access to wider host-society networks. The key issue is therefore not the absence of social ties, but their uneven distribution across transnational, co-national, and host-society contexts.

Third, the findings suggest that digital platforms function as key infrastructures through which transnational and co-national ties are maintained. Consistent with previous research (Beech, 2015; Thinyane et al., 2023), digital communication enables students to remain continuously connected to their country of origin, while also navigating everyday life in the host country. However, the findings also point to a more ambivalent role of digital networks. While they reduce isolation and support practical adaptation, they appear less effective in generating new local relationships with members of the host society.

This ambivalence shifts the interpretation of digital media from access and frequency of use to social effect. The key question is not only whether students use digital platforms, but what kinds of ties these platforms sustain or create. In this study, digital networks mainly supported continuity with existing relationships and practical orientation within Ukrainian and co-national information spaces. Their role in expanding students' networks beyond these circles was more limited. The main contribution of the study is therefore to show that, in this conflict-shaped mobility context, digital platforms primarily supported bonding rather than bridging social capital. They strengthened emotional security and practical adaptation, but did not substantially widen students' local social networks. This interpretation is consistent with research showing that digital communication can strengthen emotional connectedness and everyday presence across borders without necessarily improving offline local integration (Madianou, 2019; Mazzucato & Haagsman, 2022; Wilding et al., 2020).

Fourth, the findings indicate that social inclusion is experienced as a multidimensional and uneven process. Although most respondents reported moderate to relatively strong levels of subjective inclusion, the ESIS results suggest that this inclusion is stronger in relation to agency and everyday functioning than in relation to belonging and being needed by others. Students' uncertainty regarding their future in Slovakia further indicates that subjective inclusion should not be equated too quickly with deeper social embeddedness or long-term orientation toward the host society.

The findings also highlight the importance of everyday conditions such as housing, language, and social relationships in shaping experiences of inclusion. These factors were among the most important issues influencing respondents' lives in Slovakia and point to the practical dimension of social inclusion. Inclusion is therefore not determined solely by formal institutional access to higher education, but also by the ability to secure stable living conditions, communicate effectively, and build supportive relationships in everyday life.

Overall, the study shows that digital networks operate as a transnational social infrastructure that supports continuity, emotional security, and practical orientation. However, this infrastructure was more effective in sustaining existing transnational and co-national ties than in generating wider bridging ties in the host society. The study, therefore, specifies how digital media matter in a conflict-shaped mobility context.

These findings also have implications for higher education institutions. Since digital and co-national networks already provide practical and emotional support, university-based inclusion measures should focus on creating

opportunities for bridging interaction between Ukrainian and Slovak students, for example, through mixed study groups, peer mentoring, language support, and structured social activities.

## 6. Conclusion

This article has shown that digital networks and social ties play a central role in the shaping of social inclusion of Ukrainian students in Slovakia. Digitally mediated transnational ties are central to students' everyday lives: They support communication with family and friends in Ukraine, provide access to practical information, and help reduce feelings of isolation after migration.

At the same time, the findings point to a clear limitation of these digital networks. While they facilitate adaptation and everyday functioning, they do not automatically lead to the formation of stronger local ties. In this sample, students' social networks were concentrated primarily within transnational and co-national circles, while connections with the host society appeared to develop more slowly and selectively.

The central conclusion is therefore not that Ukrainian students are excluded from Slovak society, but that their inclusion takes a specific and uneven form. Respondents were able to study, communicate, access support, and manage everyday life in Slovakia, yet this inclusion was often sustained by transnational and co-national networks rather than by deeper embeddedness in Slovak social networks. Social inclusion was thus more closely linked to everyday functioning and coping than to stable local belonging or long-term settlement intentions.

From a practical perspective, the findings suggest that support for international students should go beyond academic and administrative integration and include active fostering of mixed social networks between domestic and international students. Universities can play an important role in this process by supporting structured opportunities for interaction, language development, peer mentoring, and access to stable everyday conditions such as housing and student support services.

Given the pilot nature of the study, the relatively small sample, and its focus on one institutional setting, the findings cannot be generalised to all international students in Slovakia. Even so, the study provides important initial insights into the relationship between digital networks, transnational ties, and social inclusion in a conflict-shaped mobility context. Future research should examine these processes using larger and more diverse samples across several universities and regions. Longitudinal research would also be particularly valuable, as it could show whether students' reliance on transnational and co-national ties decreases, remains stable, or transforms into stronger local bridging ties over time. Comparative research with other groups of international or displaced students could further clarify the patterns that are specific to Ukrainian students in Slovakia and the patterns that reflect broader dynamics of conflict-shaped student mobility.

The article contributes to debates on ISM, digital migration, and social inclusion by showing that, under conflict-shaped conditions, inclusion depends not only on formal participation in higher education, but also on how digitally sustained transnational ties interact with uneven local relationship-building. Digital connectivity should therefore be understood not simply as a tool of communication, but as a condition of adaptation whose strengths may also coincide with limitations in generating deeper social belonging.

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### Conflict of Interests

The authors declare no conflict of interests.

### Data Availability

The data associated with this article are available upon request from the authors.

### LLMs Disclosure

The authors used a large language model (ChatGPT by OpenAI) for language editing, stylistic refinement, and improvement of structural clarity in the manuscript. The tool was used to improve clarity, grammar, coherence, and overall readability of the text. No data analysis, statistical processing, or interpretation of results was conducted using the LLM. The authors reviewed all suggested edits and take full responsibility for the content of the manuscript.

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## About the Authors



**Martina Chrancokova** is a researcher at the Institute for Forecasting, Slovak Academy of Sciences, and teaches statistical methods at the Faculty of Management, Comenius University Bratislava. Her research focuses on migration, especially Slovaks abroad, with an emphasis on qualitative analysis of migrants' experiences and tacit knowledge.



**Ludmila Mitkova** (PhD) has been a member of the Department of Economics and Finance at the Faculty of Management, Comenius University Bratislava, since completing her doctoral studies. Her academic work focuses on gender equality, equal opportunities, and generational change in the labour market, reflected in her research profile and publication activities.

# Midlife Digital Care Work of the Highly Skilled Migrants

Aija Lulle <sup>1,2</sup>  and Elza Lāma <sup>2</sup> 

<sup>1</sup> Department of Geographical and Historical Studies, University of Eastern Finland, Finland

<sup>2</sup> Faculty of Social Sciences, Riga Stradins University, Latvia

**Correspondence:** Aija Lulle ([aija.lulle@uef.fi](mailto:aija.lulle@uef.fi))

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## Abstract

Digital technologies now shape nearly every stage of high-skilled migration: recruitment, relocation, professional networking, transnational work, and everyday relationship maintenance. Yet digitalisation in relation to migration during midlife remains underexplored. In this article, we develop the concept of midlife digital care work to explain the capability-based, relationship-sustaining labour through which highly skilled migrants maintain intimate, intergenerational, and professional ties across borders. Drawing on 23 semi-structured interviews with Latvian middle-aged professionals living transnationally, we show that digital care work is especially intensive in marriage and partnership, while also extending to children, parents, friendships, and professional communities. We argue that digital infrastructures form the enabling conditions of such care, while purposeful midlife mobility provides its life-course context. Interlocutors' accounts demonstrate the limits of mediated connection: Digital communication cannot replace embodied co-presence, touch, shared material space, and being together. By foregrounding midlife digital care work, the article extends scholarship on midlife mobilities and digital migration studies by showing how migrants evaluate digital connections as part of their capability sets and as integral to crafting meaningful, relationally sustainable lives across borders.

## Keywords

capabilities; digital care work; highly skilled migrants; midlife

## 1. Introduction

Digital technologies now shape how high-skilled migration is organised and lived, from maintaining professional relevance across borders to sustaining family relationships and everyday belonging at a distance (Alam et al., 2025; Bradley et al., 2025; Godin et al., 2025). These and other authors show how digital

technologies are embedded in migration governance, including skilled migration channels. Yet, while age and generation clearly matter in geographies of migration (Hopkins & Pain, 2007), we still know very little about digitalisation and migration in midlife. Building on emerging scholarship on midlife mobilities and digital migration studies, this article asks: How do highly skilled migrants in midlife use and evaluate digital connections in their transnational lives?

Drawing on interviews conducted between 2024 and 2025 with Latvian professionals living transnationally in early to late midlife, we argue that digital connections are best understood as infrastructures and practices of midlife digital care work: capability-laden forms of sustaining marriages and partnerships, intergenerational ties, friendships, and professional communities across borders. In this sense, digital media are not merely communication tools; they are central to how migrants organise mobility, care, and professional continuity across place.

Theoretically, we develop a layered conceptual framework that brings midlife mobility scholarship into conversation with transnational social field approaches to simultaneity, mediated co-presence, care circulation, infrastructure-informed digital migration studies, and the capability approach. This framework enables us to analyse not only how digital connections are used, but also how they are evaluated as part of migrants' efforts to sustain meaningful, relationally dense, and professionally viable lives across borders.

Empirically, the analysis proceeds in four steps. We first examine digital infrastructures as enabling yet unequal conditions of mobility, work, and care. We then situate these practices within purposeful midlife mobility, understood as more reflexive, time-bounded, and responsibility-laden than youth mobility. Third, we conceptualise midlife digital care work as the routine labour through which migrants sustain intimate, familial, and professional relationships across distance. Finally, we show why embodied co-presence, touch, and shared material space remain indispensable. In so doing, the article extends Lulle's (2024a, 2024b) work on midlife mobilities by bringing in new empirical and conceptual knowledge on digital care.

## 2. Midlife on the Move

Midlife mobilities scholarship (e.g., Lulle, 2024a, 2024b, 2024c) invites us to rethink the situated, relational process of unfolding lives in the middle years. We define midlife loosely as roughly the mid-thirties to around sixty, but without rigid age brackets. Rather, midlife is marked by dense responsibilities and ongoing reassessments: caring for children and elderly parents, navigating career peaks or shifts, and re-evaluating past trajectories alongside future planning. In this view, living in the middle of generations and multiple ongoing projects entails caring, maintaining work roles, and simultaneously imagining new possibilities. This aligns with theorists who argue that life stages are not fixed biological categories but socially constructed contexts of meaning (Hopkins & Pain, 2007).

The midlife perspective is under-examined: Most migration and wellbeing research focuses on youth or old age, overlooking how midlife experiences intersect with other generations. Yet for migrants, midlife is often defined through ties to family and community. Midlife migrants frequently sustain or reconfigure bonds with children, parents, siblings, and partners across borders. These ties shape both migration decisions and daily wellbeing (Baldassar & Brandhorst, 2021; Kelley et al., 2024). For example, caring for grandchildren abroad or sending remittances home are as much part of migrants' well-being narratives as career advancement.



Recognizing these relational commitments reveals midlife as a unique juncture: Individuals may still pursue self-actualization, as in youth, but must also balance intensified care roles, which are more typical of later life.

Recent empirical studies underline that migrants' wellbeing is age-specific. Andronic and Constantin (2025) find that age significantly moderates how migrants adapt culturally and psychologically: Midlife migrants face identity stressors that younger migrants do not, due to earlier life anchoring. Their review shows that age, along with gender, education, and length of residence, shapes well-being trajectories, with midlife standing out as a point of variation. Similarly, Lulle (2024b) argues that midlife migrant transitions—such as career shifts—mirror those of younger people but are complicated by heavier care duties. Taken together, this research suggests that midlife migrants balance youthful mobility (career change, relocation) with lifelong responsibilities (family support), making their pursuit of a good life distinctively complex.

Broader scholarship reinforces this picture of midlife as relational and networked. For instance, Morgan (2009) highlights that weak ties (acquaintances, colleagues) occupy more psychological space in midlife, which is critical for mobile adults building new networks abroad. Population geographers also stress that mobility decisions are life-course dependent (Bailey, 2009). Moreover, transnational family studies show that kinship ties evolve unevenly over time and distance: Siblings or cousins may drift apart or become closer, and caregiving roles shift in unpredictable ways (Baldassar & Brandhorst, 2021). These findings underscore that midlife migrants' wellbeing must be understood through dynamic family geographies rather than through isolated individuals. Levitt and Schiller's (2004) notion of simultaneity is particularly useful here: Migrants are embedded in multiple social fields at once. Midlife migrants enact such simultaneity daily through digital communication and long-distance routines. A midlife migrant, for example, may follow cultural debates in her home country online while working full-time abroad. The good life, in such cases, may mean achieving professional success while also maintaining cultural fluency with the society of origin.

Scholarship on home and belonging helps interpret this complexity. Brickell (2012) argues that home is continuously produced through practices beyond physical residence, while Carling (2017) emphasises how personal conjunctures—the intersection of life events, timing, and mobility—shape transnational lives. Research on welfare regimes further illuminates how middle-aged migrants navigate welfare and care responsibilities across states, families, and themselves (Frericks & Höppner, 2019). Conceptualising midlife mobilities therefore requires integrating age, relations, and mobility, because this is a dense intersection where past, present, and future coexist. Understanding midlife migrants' wellbeing also demands acknowledging that digital ties are tools for crafting simultaneity. Evaluations of digital communication must be embedded in this broader life-course context: They help sustain presence across professional, familial, and cultural spheres, enabling migrants to live simultaneously in overlapping worlds. This integrated lens moves us beyond seeing midlife migrants as caught between ages; instead, it presents them as agents who produce purposeful movement while maintaining social connection.

## 2.1. Digital Midlife

Digital communication is not merely a technical infrastructure but a relational field within which migrants actively negotiate intimacy, obligation, and everyday presence. In contexts where multiple channels are available, the choice of medium becomes socially meaningful. Madianou and Miller's (2013) concept of

polymedia emphasises that media forms are not interchangeable: Rather, individuals select and combine messaging, video calls, and social media interactions to enact distinct relational practices. Within such polymedia environments, communication choices acquire moral and emotional weight, allowing migrants to signal care, manage distance, or express ambivalence.

These dynamics are further illuminated through the notion of mediated co-presence. Digital exchanges, whether synchronous video calls or asynchronous messages, create forms of presence that are not reducible to face-to-face interaction yet remain socially consequential. Licoppe's (2004) concept of connected presence highlights how frequent, lightweight contacts such as brief updates and routine checking-in sustain relationships and cultivate a sense of ongoing togetherness despite physical separation. Such interactions do not aim at depth in every instance; rather, their cumulative effect generates relational stability and emotional reassurance. Building on this, the idea of ambient co-presence captures how ubiquitous digital media create a background awareness of others' lives that is both peripheral and affectively charged. Through continuous digital traces—status updates, photos, shared links—migrants can monitor and remain attuned to distant family members, thereby reshaping practices of intimacy, responsibility, and care in transnational settings (Madianou, 2016). This ambient relationality complements more intentional forms of communication, together producing multilayered emotional geographies across distance.

The differentiated use of media channels also reflects the varying strength of social ties. Close kin and partners typically rely on intensive, routinised communication patterns involving richer media such as video calls or prolonged messaging, while acquaintances and situational friendships are more likely to be maintained through low-intensity platforms. Here, Granovetter's classic distinction between strong and weak ties is analytically useful: Even minimal digital maintenance of weak ties can yield social resources, continuity, and occasional support without requiring sustained emotional labour or intimacy (Granovetter, 1973). Thus, digital communication practices reinforce not only emotional bonds but also the broader social networks that shape migrants' mobility trajectories and everyday lives.

## 2.2. Digital Midlife Care Work

To theorise digital midlife care work, we draw on the care circulation framework developed within transnational family studies. Rather than conceptualising care as a unidirectional "transfer" from caregiver to recipient, care circulation emphasises its multidirectional, negotiated, and temporally extended nature. This framework is particularly well suited to our interview material, as it provides a conceptual language for discussing routines, reciprocity, and the organisation of care amid mobility—dimensions that are especially salient in partnership arrangements and intergenerational relationships during midlife. Crucially, care circulation theory also clarifies why digital communication can be *necessary* yet not *sufficient*: Although digital channels are indispensable for managing obligations across distance, caring relationships depend on ongoing negotiation and embodied practices over time. Thus, our emphasis on embodied presence should be read not as a rejection of digital care, but as a theorisation of the situated limits of mediated caring practices.

Situating digital care within broader infrastructures allows us to consider digital connections not only as interpersonal communications but also as the infrastructural conditions that enable or constrain mobility itself. Insights from infrastructure studies highlight that infrastructures are relational and often remain invisible when they function smoothly (Cantwell & Shukla, 2025; Larkin, 2013; Minchilli & Ponzanesi, 2025).

They become analytically salient through breakdown, friction, or uneven access. This perspective enables a more nuanced understanding of the practical affordances underpinning migrants' mobility—such as cross-border financial transfers, arranging housing online, or sustaining remote work—and the unequal digital conditions across geographical contexts that shape these affordances. Attending to infrastructure thus complements the relational analysis of digital communication by revealing the socio-technical environments that underwrite mobility.

Attention to everyday digital practices also aligns with scholarship emphasising the mundane and habitual nature of digital engagement in migrants' belonging-making and relational maintenance. Rather than viewing communication as exceptional or episodic, this perspective foregrounds routine digital acts—scrolling, messaging, sharing—as socially productive and central to the formation of transnational lifeworlds (Ponzanesi & Leurs, 2022). Such an orientation is particularly important in midlife, a stage characterised by dense care responsibilities, negotiated interdependencies, and ongoing reassessments of mobility.

To interpret variation in digital practices, we also draw on digital inequality research as a sensitising lens. This scholarship demonstrates that digital divides extend beyond access to encompass disparities in skills, types of use, and the benefits that individuals can derive from digital engagement. Age is frequently implicated in such differences, making digital inequality a relevant dimension for a life-course analysis even among highly skilled participants. In this light, digital engagement is not a uniform resource but a differentiated terrain in which unequal capabilities shape the quality and payoffs of online participation.

Finally, to theorise what it means for migrants to evaluate their digital connections, the analysis adopts the capability approach as a normative-evaluative framework. The capability approach conceptualises wellbeing as the real freedoms individuals have to achieve valued ways of being and doing (Robeyns, 2005, 2025). This perspective is particularly apt for interpreting participants' reflections on the meaningful life, as it accommodates multidimensional evaluations that include maintaining intimate relationships, sustaining meaningful work, preserving cultural continuity, and exercising mobility with security and dignity. Digital connections can thus be understood as part of migrants' capability sets: They enable social participation, continuity of care, and forms of professional agency across distance, but they can also introduce strain through time pressure and emotional labour, and they may be unable to deliver the valued togetherness that depends on embodied co-presence. Recent work arguing for capability-based migration policy underscores this multidimensional view of migrant wellbeing, suggesting that social, cultural, and digital dimensions of life should be considered alongside economic self-sufficiency (Anthias, 2012). Such insights align with growing evidence that migrants' quality of life is shaped by access to social networks, meaningful activities, and freedoms of mobility.

This layered theoretical framework helps us analyse the capability sets of our interlocutors (Robeyns, 2005). Midlife migrants bring diverse skills, obligations, and accumulated biographies to their transnational lives, and they evaluate digital connections in relation to what kinds of lives remain achievable across borders. We therefore analyse digital media through co-presence concepts that explain differentiated communication practices as digital care work with close family, acquaintances, and professional communities. Below, we empirically explore digital infrastructures as enabling yet unequal conditions for sustaining those capabilities.

### 3. Methodology

This article draws on 23 semi-structured interviews carried out by both authors. Fieldwork took place in Latvia between 2024 and 2025, combining in-person interviews with online conversations (via Zoom and WhatsApp) when participants were abroad. All interlocutors were in early to late midlife, and a life-course perspective was central to how they reflected on their mobility trajectories (Lulle, 2025). All but one participant had higher education; the exception possessed specific high-demand skills that enabled the selection of work abroad that was both engaging and oriented towards personal growth. Participants had diverse family situations: Some were already young grandparents, others had teenage or early adult children, and some did not have children. Professional skills and educational backgrounds were also diverse, and many no longer worked in the profession they had originally trained for in their youth.

Interviews were conducted in Latvian, the participants' preferred language. All recordings were transcribed in Latvian, and interview excerpts were translated into English for publication. Interviews were recorded with informed consent and subsequently anonymised, with particular care taken to remove potentially identifying details. For instance, the countries in which participants were residing are not disclosed.

Interviews ranged from one to nearly three hours in duration. Each began with an outline of the project's focus—particularly the intersections of work, family life, and mobility. A small set of semi-structured prompts guided the discussions; however, interviewees generally narrated their experiences freely and often introduced themes that had not been anticipated, such as the importance of physical presence and the joy associated with receiving handwritten letters. In addition to the formal interviews, informal conversations with participants and other community members deepened the contextual understanding, particularly regarding gendered expectations and generational dynamics. Sampling began through social networks, which provided introductions to individuals not previously known to the researchers, and continued through snowballing.

The analysis foregrounds narratives and practices, interpreted through what participants did, how they acted, and with whom they maintained connections across relocations (cf. Hitchings, 2012). Four broad analytical themes emerged from conceptually guided coding. We first conducted hand coding focusing on mobility, then digital and non-digital engagement with social networks, the frequency and intensity of communication—ranging from daily to monthly rhythms—platform choices, participants' explanations for differing intensities, and the dynamics of social ties, including family, friends, acquaintances, and colleagues, and how these ties strengthened, weakened, or shifted over time. We treat our interlocutors as experts of their own lives whose words do not merely report reality but help constitute it (Braun & Clarke, 2014; Terry et al., 2017). The themes that emerged most clearly were the broader infrastructures of contemporary digital capitalism, the distinctiveness of midlife professional mobility, digitally mediated care work, and the value of physical objects and embodied togetherness. We then analysed digital connections as part of migrants' capability sets: They enable migration, continuity of care, and professional agency across distance, yet remain insufficient for embodied presence.

## 4. Analysis

### 4.1. Digital Infrastructures

In this section, we trace the infrastructural capabilities that enable movement and relationship maintenance across borders. At the macro level, these capability sets include highly developed digital access to travel, housing, banking, and the internet—conditions that many Western migrants have come to take for granted. What distinguishes our participants is not digitalisation as such, but how they use digital environments through the temporalities of the life course, long-distance mobility, and exceptional events such as the Covid-19 pandemic. For many, the pandemic dramatically intensified dependence on digital tools for education, work, and social contact. Remote learning and remote work blurred the boundaries between physical and virtual space, producing new possibilities but also new forms of social cost. As one participant, Gundars, reflected: “Covid time was the only time when I felt really lonely. I couldn’t meet anyone.”

For Elsa, the shift to remote education reorganised her spatial choices:

All my classes were now online. So I decided I could spend the year at home in Latvia [and] not travel to the country of my studies.

The words of our interlocutors echo what Leurs and Ponzanesi (2024) and Hine (2020) describe as the mundane and embodied character of digital life, further intensified by fast-paced digital economies and pandemic convergence, reshaping the lives of migrants and non-migrants alike. These shifts also decoupled work from place, creating new mobility options for highly skilled migrants able to work remotely across borders (Bilan et al., 2025; Triandafyllidou, 2025). Participants working in fields such as translation and banking gained substantial geographical flexibility compared to those whose jobs required physical presence abroad. Digital infrastructures thus offered autonomy and mobility in professional life while simultaneously redefining the texture of sociality.

Digital communication among our interlocutors is structured by dual logic: Different media serve different relationships. Platforms such as Facebook and Instagram are used to maintain situational friendships and weak ties through low-intensity engagements: birthday greetings, photo exchanges, and simply keeping track of acquaintances’ lives (Granovetter, 1973). In contrast, strong ties with family, parents, siblings, and close friends rely on more intimate channels such as WhatsApp and other video-calling apps. These mediated forms of proximity began in daily life in Latvia but continue to structure longer-term periods of physical distance.

Weak ties, although low-maintenance, can become reminders of Latvian networks. In her spare time, our interlocutor Laura started playing quizzes on social networking sites; it became, in her words, “almost an obsession,” driven by the clickbait and attention economy. However, through such activities, dormant ties were revived as she was often online and able to follow closely and re-engage with distant acquaintances.

Digital infrastructures also anchor professional identities, especially when geographical mobility or local labour market constraints limit access to conventional employment. For example, Gunita described turning to digital expression while abroad and unable to work because of language barriers. She started writing a blog and said that it gave her a sense that she could still do something meaningful. For her, the capability of digital

production restored a sense of professional competence and continuity. Others used digital communication strategically to maintain international professional relevance. As Ilze emphasised:

I'm constantly in contact with colleagues from Scandinavia, Central and Eastern Asia, Western Europe. Keeping those ties alive is part of my job; otherwise, you lose international relevance.

Another participant, Ingrida, spoke of the global reach of her digital labour in a similar way, explaining that she still works digitally as a consultant after retiring early from her international career.

Linda exemplifies a fully digital career path:

Almost all my work is digital. I can write articles, run investigations, coordinate projects from everywhere where the internet is good....It is one of those few professions where mobility is possible. But of course, all my work is oriented towards Latvia.

Digital infrastructures thus enable economic participation across borders, sustaining professional trajectories that would otherwise be impossible. Midlife also entails purposeful identity work, as suggested, for example, in Smahina's (2025) netnographic research with Ukrainian forced migrants in Finland. Digital infrastructures facilitate work, while semi-private chat communities enable individuals to negotiate professional identity and self-worth—a highly significant dimension of midlife identity.

Digital infrastructures also shape how public-facing work abroad is experienced by loved ones at home. Arta, who appeared regularly on TV from crisis zones, described how this created a particular digital persona. Yet intimate digital conversations with her partner and siblings softened the pressures of this visibility through everyday private communication.

Finally, our interlocutors highlight the often-invisible infrastructures that make mobility possible. As Ilvars noted, about travelling in Western Europe:

I go to Amsterdam by train. I have my Latvian bank card, my payment system that is global. I can pay and travel and be mobile without giving it a thought.

Such frictionless digital infrastructures contrast sharply with contexts where digitalisation is limited. Elfrida reflected on her work in Central Asia, where the internet was so slow that it taught patience to both her and her husband as they tried to keep their marriage alive through obligatory daily internet calls.

Digital infrastructures are also central to practical aspects of mobility, such as securing housing. Dina recounted finding accommodation during Covid-19: "I found a flat myself—seven nights on the internet—and I got it."

The embeddedness of digitalisation becomes particularly visible here: it smooths mobility but also reveals inequalities in technological environments. This echoes Bradley et al. (2025), who emphasise that routine digital literacy, in this case, finding a flat online, is now essential for migrants' daily navigation of host societies.

These digitally enabled capability sets comprise the financial, professional, and relational uses of digital tools through which migrants maintain close and distant relationships, sustain professional relevance, preserve cultural belonging for themselves and their children, and navigate the practicalities of mobility. Yet midlife remains anchored in identities formed earlier in life. Most of the middle-aged participants, regardless of skills or cosmopolitan orientations, remained strongly pulled towards what Rita succinctly expressed: “I rather belong to the Latvian information sphere.”

#### 4.2. *Mobile Midlife*

Midlife mobilities among highly skilled professionals are characterised by conscious decisions, reflexive self-knowledge, and a clear sense of purpose. Unlike youth mobilities, often marked by experimentation and open-ended exploration, midlife migrants generally know why they go abroad, what they want to achieve, and how mobility fits into their broader life projects. As Gundars succinctly put it: “I moved because I found a very good job that suits my interests and my skills, not just because of moving.”

This clarity of intention emerged consistently across interviews, which we interpret as accumulated professional and life-course capabilities. Interlocutors emphasised that they intentionally sought professional challenge, growth, and meaningful work. Their mobility decisions were neither accidental nor impulsive but aligned with long-term aspirations and self-understanding.

Importantly, midlife should not be treated as synonymous with family life—a common assumption in migration and life course theories (cf. Bailey, 2009). Many of our interlocutors in midlife are childless or live alone, and their mobilities reflect this diversity. Kristine articulated this clearly:

I realised that I don't want children. It is not an active refusal, just a lack of desire. For me, a good life means stability, meaningful work, and freedom.

For her, stability does not mean being tied to one physical location; rather, it means belonging to a high-skilled professional environment that encourages continuous growth. As she continued:

The wandering life gives me joy. I love arriving at a new place not quite knowing the rules, that sense of being slightly outside the familiar, that's my happiness.

This stance exemplifies freedom as a capability to live a life of one's own choosing. Another important dimension of her story is that highly skilled professionals can forge forms of professional belonging that are enacted across multiple places and sustained through international networks, mobility infrastructures, and digital connectivity. Professional work, for Kristine, provides stability even as countries and places change.

Friendships in midlife often unfold across borders. Many of our interlocutors have peers with similar levels of education, ambition, and global orientation who also live transnational lives. These parallel mobilities support the maintenance of long-standing bonds. As Elfrida explained:

I have colleagues, old friends, study friends—very special people. My friends live in Sweden, in Amsterdam, elsewhere. Our friendships continue through regular visiting, WhatsApp, and going to



common events. These women are highly accomplished professionals, and it is important for me to maintain our ties.

Such friendships provide emotional anchoring and reinforce shared identities shaped by education, career trajectories, and cosmopolitan professional fields. They need to be nurtured as living collective capabilities and allow midlife migrants to cultivate transnational social worlds that do not depend on co-residence or proximity.

Many interlocutors referred to frequent travel back to Latvia, forming regular rhythms that structure their midlife mobility. For highly skilled professionals—whether supported by employers or self-financing their stays—regular returns home became essential. Artis described his mobility pattern with precision: His own scheme was about returning home nine times a year; for Ingrida, it was “three weeks [away] and then [one] week I’m back in Latvia. Whether it’s Covid time or not, I am there.” These rhythms accommodated family commitments, including care for a young child. Even when participants held demanding international roles, they sought ways to remain embedded in family life and maintain continuity in their relationships with Latvia.

While midlife migrants often achieve high levels of professional satisfaction abroad, establishing new, deep social ties can be challenging. As Viktors emphasised: “In our age, friendship is the biggest value.”

Many echoed the difficulty of forming new friendships in midlife, an age when people’s social circles tend to stabilise and time becomes fragmented. This challenge is amplified in mobility contexts, where social integration is uneven, and transnational routines limit opportunities for sustained local engagement. Artis described this thoughtfully:

Life is quite lonely despite professional achievements. If I didn’t have my regular intense work and regular connection with professionals in my sphere, this loneliness would be a very important reason to end this period abroad.

For him, the sense of purpose and mission provided future planning, a temporal structure, and a sense of meaning:

I know I am here for four years, on a professional mission. And I know I will return to Latvia, where I belong.

This sense of a clear timeframe and an eventual return acted as a psychological anchoring mechanism, allowing participants to tolerate loneliness or instability while abroad.

The midlife mobilities of our interlocutors are highly purposeful. Participants know *why* they are abroad, primarily for professional development, and most know they will eventually return to Latvia. We caution against generalising these findings to all midlife migrants, given the socioeconomic selectivity of our sample. Yet the pattern is clear: Midlife mobilities among highly skilled professionals are marked by intentionality, professional purpose, and a strong sense of where “home” is. This purposefulness distinguishes midlife mobility decisively from youth mobility, where uncertainty, experimentation, and open-ended exploration often predominate.

#### 4.3. Digital Midlife Care Work

What we call digital midlife care work refers to the everyday labour of maintaining and creating ties while being geographically mobile: caring digitally for parents, partners, and children, and simultaneously sustaining professional communities across borders. Our interlocutors described well-developed routines for this digital care work, showing how midlife mobility requires constant attention to relationships at a distance—emotional, temporal, and technological.

For partners, parents, and close family members, WhatsApp was by far the most frequently used medium. As Gunita put it: “WhatsApp. 98%.”

Several participants also recalled the role Skype played before its decline, especially for communication with parents. Migrants use digital tools mundanely to maintain everyday sociality, affection, and solidarity. Ponzanesi and Leurs (2022) show that digital migration practices are complex negotiations of the everyday.

Importantly, digitalisation does not fundamentally change relational patterns that have developed over the life course. Some ties continue much as before migration. For instance, Artis reflected on his relationship with his father:

My relationships with [my] dad were and remain rather distant, and it's not a result of migration. I communicate rather seldom with him simply because this is our way of communicating.

In other families, distance intensified contact. Gunita explained that she communicates more with her parents now than before migration, a pattern shaped by their life course. When her parents were younger and more physically active, they communicated through work, shared tasks, and everyday physical presence. Now, with less mobility, digital closeness has become essential:

Every evening, I called them on Skype. Communication was slow due to poor internet, especially when I was in [a non-Western destination], but it was so important for us to be in touch.

This reflects a capability to value and routinely work on what matters, something similarly expressed by Amanda. Her current digital routines reproduce earlier patterns of intimacy:

Among my family, ties are unchangingly warm with my mother—those are very long calls once a week. With [my] father, a bit less. With my brother, it's regular but different—photos and news.

She added: “Mother and I call [each other] once a week, then we speak long and from the heart.”

Maintaining marriages and partnerships across physical separation was described as emotionally demanding and labour-intensive, requiring intentional, structured digital routines. As Ingrida explained:

During my long postings in different countries, the only way to protect the marriage was to talk twice a day, morning and evening. Without that routine, we would not have been together; we would have drifted apart....One sentence took half a minute to land...these tiny connections held our family together.

Diana echoed a very similar midlife capability and effort, saying that with her husband she “talked every day—every morning and evening. If not, the marriage would simply not have survived.” This aligns with van Hoof’s (2013) analysis of how changing economies and everyday life reshape couples and, in our case, what couples do to maintain relationships when such changes are compounded by physical separation. Across our interviews, this digital midlife labour emerges as intense and purposeful care work—sustaining marriages, maintaining family ties, nurturing friendships, and preserving professional networks. Participants recognised that distance was ever-present and that, while digital communication could not fully replace physical presence, touch, or domestic intimacy, routine digital connection became a strategy of compensation. Morning and evening calls, regular check-ins, and sustained messaging were all forms of conscious relational work.

Friendships and acquaintances follow comparable patterns (Morgan, 2009). Many interlocutors described stronger or more regular contact while abroad than when living in Latvia. Amanda explained that she uses WhatsApp with one friend, direct calls with another, and that these patterns reflect their earlier modes of communication when they lived in the same country. Although many admitted that forming new friendships in midlife is challenging, some, especially single participants, did engage in romantic relationships across borders. Santa, who has lived in several countries over the past decade, revealed:

I had a sweetheart in [in another country]....They entered my life via digital routes—of course, Tinder. It helps me shift the conversation away from work, [to] have a digital romance.

Digital care work also involves professional identity. Many interlocutors created new WhatsApp groups or digital networks that replaced earlier academic or community affiliations in Latvia. As Elmārs explained, his new group of Latvian professionals abroad substitutes the university associations and local communities he once belonged to, demonstrating accumulated capability to create and recreate communal relationships:

This new WhatsApp group with Latvian professionals in different countries replaced my old networks. Now I have to create such a community myself.

Across all these accounts, digital midlife emerges as a dense landscape of emotional, relational, and professional labour. Digital communication cannot replace physical presence, but it enables people to sustain what matters to them: intimacy, care, professional belonging, and a sense of home carried across borders.

#### ***4.4. Embodied Presence and the Limits of the Digital***

In this final section, our interlocutors remind us that digital care work, however intensive and meaningful, cannot replace the embodied realities of being physically present with loved ones. Real presence, real touch, and the materiality of “being there” continue to hold profound emotional value. Gatis illustrated this vividly when describing his relationship with his grandmother, with whom he is very close. He shared a moving story about surprising her:

I always surprise her. For instance, I sat next to her in the theatre...without announcing that I would be in Latvia. I appeared next to her, to show with my body and my presence how dear this connection is to me.

Such moments signify the irreplaceability of embodied affection, especially for older generations who value tactile, face-to-face encounters. We follow Sun's (2021) argument that migrants do not take intimacy for granted. We also extend emerging discussions of ageing in networks by showing that grandchildren, too, can be active producers of intimacy, connection, and touch across generations.

For almost all participants, the most important form of care is physical presence with children. Many spoke of travelling "as often as it takes," regardless of cost or distance, when their children lived separately. Prioritising this trip—financially and emotionally—was considered essential. Similarly, being physically together with a partner was repeatedly emphasised as crucial to sustaining relationships. Linda recalled a moment that captured this sentiment:

At some point, he said: "I am here, I have come halfway across the world, and you need to look at me, not at my emails." And he was right.

Her husband's insistence that distance cannot be an excuse for avoiding embodied time together illustrates the emotional labour required to sustain partnerships across borders. Arta recounted a similar experience, also echoing the financial capabilities of our interlocutors:

My partner said: "I have money, I can buy tickets for you, but we cannot be seeing each other only through the screen. You need to come here. Distance doesn't matter—I will cover the costs."

These accounts underscore how midlife couples, especially those in demanding international careers, negotiate the boundaries between digital connection and physical presence.

Materiality—objects, letters, gifts, and familiar places—also plays a central role in sustaining deep emotional ties. As highlighted earlier, summers spent in specific places in Latvia anchor families in landscapes of belonging. The receipt of tangible objects can hold equally deep meaning. Ingrida described how receiving a handwritten letter remains profoundly special: "It is something very special. I have a friend, a teacher. We exchange letters from time to time."

Such material exchanges exemplify the affective power of physical objects, reinforcing that digital communication, while essential, cannot replace the sensory and symbolic richness of tangible presence. Across these accounts, it becomes clear that digital communication sustains relationships during absence, but real presence—arriving in person, touching, sharing space, exchanging physical gifts—remains central to how midlife migrants maintain and express love, loyalty, and belonging.

## 5. Conclusion

This article demonstrates that digital care work constitutes a distinctive and still under-theorised form of midlife relational labour among highly skilled migrants. Marriage and long-term partnerships, in particular, require intensive digital labour—what our interlocutors described as communication "every morning, every evening"—accompanied by a conscious understanding that, otherwise, "the marriage would not survive." Maintaining intimacy at a distance is therefore not incidental but a continuous emotional effort embedded in daily routines.

We have shown that midlife mobilities unfold within highly digitalised environments, yet these environments are uneven across the globe. In Western countries, many highly skilled professionals can move almost frictionlessly through interoperable infrastructures. By contrast, those working in regions with limited or slow digital connectivity encounter constraints that significantly shape mobility, social ties, and work practices.

Our findings also demonstrate that midlife mobilities are purposeful planning capabilities. Participants know why they relocate and, unlike many younger migrants, they no longer have the time or desire to experiment with paths that can easily be abandoned. Midlife mobilities and digital care work are marked by rituals and stabilised patterns that distinguish them from both youth and older-age mobilities. By this stage, professional lives are already substantially formed, and mobility becomes a deliberate strategy: to pursue meaningful work, acquire new skills, or gain relevant international experience.

In dialogue with scholarship on care and digital connections (Baldassar & Brandhorst, 2021; Baldassar & Merla, 2013), we emphasise that digital practices have limits. While digital tools sustain intimacy across borders, people still go to great lengths to create rituals of presence, prioritising embodied, co-present encounters despite the financial and logistical costs of travel. Co-presence extends beyond the body: It also includes the exchange of material objects, handwritten letters, and physically returning to places that hold emotional significance. These practices show how migrants cultivate belonging through both digital and material means.

Our findings align with Hine (2020) and those of Leurs and Ponzanesi's (2024) call to recognise mundane digital practices as infrastructural to migrant life. Digital everydayness supports emotional bonds, financial management, cultural participation, and the rhythms of social life. Migrants' ordinary digital routines illuminate their agency, resilience, and the ways in which they craft belonging across borders. At the same time, digitalisation expands opportunities for highly skilled mobility—through remote work, online recruitment, digital nomad visas, and platform-based labour—making new forms of midlife mobility possible.

As a future research agenda, we invite scholars to explore the rich, dense, and diverse lives of middle-aged migrants across varied geographical, professional, gendered, and familial contexts. Midlife mobility is neither derivative of youth mobility nor is it reducible to family obligation; it is a purposeful, emotionally complex digitalised way of being in the world full of intergenerational relations.

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## Conflict of Interests

In this article, editorial decisions were undertaken by Ulf R. Hedetoft (University of Copenhagen).

## Data Availability

Data are not publicly available due to our duty to protect anonymity and personal details throughout the interviews.

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### About the Authors



**Aija Lulle** is an associate professor at the University of Eastern Finland and a guest associate professor at Rīga Stradiņš University. Her research spans migration, gender, life course, ageing, care, and feminist geography.



**Elza Lāma** holds a PhD in social sciences and is a senior researcher at Rīga Stradiņš University. Her research interests include communication, digital cultures, mediatization, motherhood, emotion work, and life-making practices.

# Platformed Foodways in Helsinki: Young Immigrant Men, AI Tools, and “Networked Eating”

Ali Sharifi 

Department of History and Geography, University of Eastern Finland, Finland

**Correspondence:** Ali Sharifi ([ali.sharifi@uef.fi](mailto:ali.sharifi@uef.fi))

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## Abstract

In a digitally saturated Helsinki, everyday eating is increasingly routed through apps, chats, and platform encounters. This article examines how young immigrant men (aged 21–35) activate these encounters and move across them to shape their food practices and a sense of belonging. In qualitative interviews, participants narrated how they search and share recipes and foods (e.g., through WhatsApp, Telegram, or Instagram), adapt dishes to cultural or religious preferences, learn new techniques, and use delivery platforms (e.g., Wolt) both as customers and, at times, as workers. I conceptualize these dynamics as “platformed foodways”: interactions between migrant customers and migrant couriers mediated via digital tools, which are embodied and embedded in everyday practices and create brief but meaningful encounters. This conceptualization draws on the broader notion of “platformization” (Poell et al., 2019), referring to the progressive embedding of routine food practices—recipe seeking, shopping, cooking, and social eating—into digital platform infrastructures and logics. I argue that platform-mediated weak ties function as “just-in-time” coaching, and that AI lowers language and knowledge barriers while sometimes creating new frictions (advice overload, cultural mismatch). The article makes an innovative contribution to the relationality of platformed foodways in Helsinki by centering networks, mobilities, and food practices, aligned with digitally saturated social worlds. With this study, I also make a timely contribution to the nuanced recognition and care of social inclusion studies with the everyday embedded role of generative AI (e.g., ChatGPT, Gemini) in mediating migrants’ encounters and well-being.

## Keywords

digital foodways; generative AI; Helsinki; immigrant well-being; language barriers; online–offline mobilities; platform-mediated encounters; young immigrant men

## 1. Introduction

In Helsinki, everyday eating, preparing meals, finding ingredients, and learning how to cook often unfold through chats, online platforms, and short doorstep encounters (Arcadu, Reyes-Espejo, et al., 2025). As Oltmann and Espinoza-Vasquez (2024) noted, for many young immigrant men, these channels are not peripheral; they function as key pathways through which practical advice and recognition circulate.

Recipes and shopping knowledge travel quickly through WhatsApp and Telegram group chats, where peers exchange tips in real time (Calvo et al., 2024; Trauthig & Woolley, 2025); Instagram adds another layer to this by condensing cooking techniques into short and replicable videos (Marino, 2018; Ngqangashe & De Backer, 2021). Moreover, delivery platforms such as Wolt bring migrants to the threshold, where a few words at the pickup can carry encouragement or tips (Alyanak et al., 2023; Bonhomme & Muldoon, 2025). Alongside these social ties, AI tools like ChatGPT or Gemini are increasingly embedded in everyday food practices, supporting the translation of labels and menus, suggesting ingredient substitutions, and helping users build simple routines that feel manageable in a new environment (Catapang et al., 2025; Khozaei et al., 2025).

Drawing on 10 in-depth interviews and one ethnographic fieldnote, this article examines how these intertwined online–offline ties shape everyday eating and a sense of belonging among young immigrant men (aged 21–35) in Helsinki. The study deliberately focuses on young men because migrant men’s food practices remain significantly under-researched compared with women’s caring labor (Bodzan, 2020; Jin et al., 2023), offering a complementary perspective on masculine self-making and digital adaptation in the Nordic context. Also, the study further centers highly educated international students and early-career researchers, a growing group in student migration whose food adaptation strategies are rarely examined from a masculine perspective.

In the relatively quiet urban landscape of Helsinki, with a limited street food culture and fewer visible immigrant neighborhoods than in global metropolises such as London or New York, digital platforms become particularly central to the maintenance and adaptation of diasporic foodways. Therefore, in this study, I approach food practices as networked mobilities that move across screens, shops, kitchens, and doorstep exchanges (Erel & Ryan, 2019; Ponzanesi & Leurs, 2022).

The article addresses three core questions, which were developed from the interview guide, prior to data collection, and were refined during analysis:

1. How do online networks support recipe discovery, adaptation, and culturally meaningful eating?
2. How do migrant-to-migrant delivery encounters create exchanges of recognition, tips, and care?
3. How do AI tools, through translation, help allergen or halal checks, cooking, ingredient substitutions, and simple routine-building?

Throughout the article, I treat these practices as platformed foodways—the progressive incorporation of everyday food activities into platform infrastructures while migrants retain agency in shaping their use (Poell et al., 2019). This concept foregrounds the structuring role of commercial platforms in migrants’ food mobilities while retaining attention to agency and micro-scale interactions. The study, therefore, examines how these platformed foodways shape everyday belonging while acknowledging the particularities of the sample and the urban-digital context of Helsinki.

Rather than starting from platform algorithms or the conditions of gig work, this study begins with the everyday food practices of highly educated young immigrant men in Helsinki. This approach offers a complementary perspective to the more platform-centric literature on digital migration and platform labor (Maury et al., 2024; van Doorn et al., 2023).

The central problem this study addresses is how young immigrant men in a digitally saturated Nordic city construct everyday belonging and food practices when traditional family and local support networks are limited or absent. It argues that platformed foodways—through weak-tie coaching, doorstep micro-care, and AI-assisted navigation—create new relational pathways for social inclusion and well-being (Ponzanesi & Leurs, 2022). This study also highlights frictions such as advice overload, cultural misfit, and language demands (Catapang et al., 2025; Hua, 2025).

## 2. Literature Review

### 2.1. *Networks, Mobilities, and Digitally Saturated Eating*

Work on mobilities emphasizes how everyday life is organized by flows between places, technologies, and social relations rather than static locations. In digitally saturated cities like Helsinki, people move between screens, shops, and kitchens, activating ties across platforms and brief face-to-face encounters (Alencar & Tsagkroni, 2019). The mobilities lens—particularly the formulation of mobilities, immobilities, and moorings—helps one understand ordinary eating habits as movements across infrastructures (apps, platforms, transport) and relations (family, peers, couriers) that enable culturally meaningful meals (Hannam et al., 2006).

At the same time, recent work on digital food culture shows that food practices are increasingly shaped by digital infrastructures and online power dynamics (Feldman & Goodman, 2021). Conceptual work on the digital food environment further supports this framing by highlighting how platforms, content creators, and non-human digital agents mediate food choices and routines (Granheim et al., 2025). Also, digitally mediated mobility research highlights the digital as a “mobilizing infrastructure” that shapes everyday movement across online–offline worlds (Anschütz & Judge, 2025). This relational perspective resonates with broader media and migration scholarship, particularly the ethnographic work of Georgiou (2013), Hegde (2016), and Leurs (2023), which emphasizes the mutual shaping of digital technologies and migratory practices while avoiding technological determinism.

Weak ties help explain how newcomers access timely information and support. Following Granovetter (1973), weak ties are social connections that are less emotionally intense than close family or friendship bonds but provide access to new information and opportunities. In this study, they function as low-cost, scalable channels for young immigrant men to obtain practical food-related advice when traditional strong ties are limited or absent (Granovetter, 1973). These connections can function as “just-in-time” support.

These findings echo Granovetter: App-based weak ties can quickly bridge information gaps, although they are not always beneficial and can shape adaptation in uneven ways (see Banzato & Serragiotto, 2025; Calvo et al., 2024).

These two strands—mobility and network ties—set the conceptual stage for my study. I treat everyday eating as a networked mobility, where advice and recognition travel across chats, apps, and doorstep exchanges (Aker et al., 2024; Granheim et al., 2025). These processes can be understood as platformed foodways, a specific manifestation of platformization in which digital platforms progressively mediate migrants' everyday food practices while leaving room for agency and meaning-making (Poell et al., 2019).

## ***2.2. Platform-Mediated Encounters: Delivery Work, Recognition, and Micro-Care***

In Finland—in particular the Helsinki region—research shows how platform food delivery structures migrants' daily lives and exposes them to precarity and psychosocial strain while still providing income and a pathway into local routines (Mbare, 2023). Complementing this, ethnographic work shows how migrant couriers' lives are organized within a platform assemblage entangled with border regimes and administrative time—illustrating how migrant workers craft “life's work” under algorithmic conditions (Maury et al., 2024). This article aligns with the large phenomenon of student migration, as many food-delivery couriers in European cities are highly educated migrants (Kervola et al., 2024; Maury et al., 2024), while foregrounding men's food practices offers a complementary lens to the more common focus on women's caring labor.

Recent research shows that delivery platforms govern work through layered controls that compress interactions while still leaving room for social meaning (Wang & Yin, 2024). Beyond control, food delivery platforms act as social infrastructures that facilitate migrant-to-migrant encounters. Algorithmic matching and required doorstep hand-offs create hybrid “contact zones,” where highly educated migrant couriers and customers exchange brief recognition, tips, or micro-care (van Doorn et al., 2023). In this way, platforms function as relational infrastructures enabling the sociality at the heart of the present study.

For this study, platforms create migrant-to-migrant contact zones. Because many couriers are international students or highly educated newcomers, brief doorstep exchanges like saying thanks, dietary tips, or shop recommendations can carry recognition and micro-care. While some delivery research emphasizes control, classification, and scheduling, it also leaves space for relational moments and knowledge flows in the last meter of delivery. This literature supports that short doorstep interactions are socially meaningful and can feed back into healthier practices (Heiland, 2021). Research on courier–customer interactions shows these micro-encounters matter: Customer satisfaction and interaction quality shape courier satisfaction and continuance intentions, implying that brief recognition and gratitude are not trivial (Wang & Yin, 2024).

In Finland, surveys show couriers' preferences and working conditions vary, so platform work is not uniform, which matters because autonomy, rules, and time pressure determine whether doorstep interactions leave room for recognition or practical advice (Kervola et al., 2024).

## ***2.3. Artificial Intelligence, Digital Inclusion, and Language: The Finnish Context***

Recent interview-based studies with migrants in Finland show how digitalized public services (from banking to healthcare) can exclude newcomers when language and authentication barriers combine with limited support, making everyday digitalization feel coercive. Although this research has focused on women, its implications are broader: Proficiency, access, and confidence shape who benefits from digital systems. These insights anchor my attention to digital literacies when analyzing how young men navigate food apps, group

chats, and AI tools (Buchert et al., 2024). Similarly, a qualitative study of Nepali migrants in Finland highlights how language barriers, platform design, and limited support constrain access to digital healthcare, underscoring that “digital-by-default” systems may deepen inequality when usability and language access are weak (Khanal, 2025).

### 3. Methods

This qualitative study employs a semi-structured, story-eliciting interview design with ten highly educated young immigrant men (aged 21–35), mostly postgraduate students or researchers from nine nationalities (Italy, Azerbaijan, Iran, Spain, Turkey, Afghanistan, Ghana, Bangladesh, and Egypt), who had resided in the Helsinki metropolitan area for between six months and five years. They were recruited via purposive sampling through student associations and digital networks; some also worked part-time as food couriers.

Data collection took place in 2025. Interviews lasted approximately 45 to 60 minutes and were complemented by one ethnographic fieldnote documenting a grocery-store observation of a young immigrant man scanning a cereal box with his smartphone and using AI (or Google Translate) to understand ingredient lists due to language barriers. The field observation is clearly marked in sub-section 4.3 to distinguish it from interview data and provide contextual support for participants’ accounts of AI use.

The semi-structured interview guide was organized around the three research questions and used open-ended prompts to elicit concrete narratives on online recipe seeking, delivery encounters, and AI usage. Data were analyzed through inductive thematic analysis: Transcripts and fieldnotes were first open-coded, then iteratively grouped into the three main thematic categories through reflexive team discussions.

All procedures followed ethical guidelines, utilizing informed consent, pseudonyms, and secure storage on encrypted University drives. The researcher leveraged his own migration background to build rapport while employing reflexive memo-writing and advisor discussions to prevent personal bias. Table 1 shows participants’ demographic characteristics and educational backgrounds.

**Table 1.** Participant characteristics: Name (pseudonyms), age, country of origin, and education.

| Participant name | Age | Country of origin | Degree                  |
|------------------|-----|-------------------|-------------------------|
| Nima             | 29  | Azerbaijan        | PhD researcher          |
| Hashim           | 32  | Egypt             | Postdoctoral researcher |
| Marco            | 25  | Italy             | Master’s student        |
| Opoku            | 27  | Ghana             | Master’s student        |
| Maziyar          | 35  | Iran              | Master’s graduate       |
| Pol              | 23  | Spain             | Master’s student        |
| AmirAli          | 30  | Afghanistan       | PhD researcher          |
| Ahmed            | 21  | Turkey            | Bachelor’s student      |
| Reza             | 34  | Iran              | PhD researcher          |
| Sujan            | 35  | Bangladesh        | Master’s student        |

The sample consists of highly educated international students and early-career researchers, characterized by temporary stays, high English proficiency, and access to university networks. Because migrant men's food practices remain significantly under-researched compared with women's caring labor, the study deliberately focuses on young men. This homogeneity enabled a focused exploration of platformed foodways among educated migrants, and limits generalization to other migrant groups with different educational, class, ethnic, or legal backgrounds. Although issues of masculinity are addressed where relevant, other intersecting identities remain secondary to the study's emphasis on digital practices.

## 4. Results

### 4.1. *From Phone to Plate: Weak Tie Coaching in Chats and Online Communities*

Across the interviews, participants described using online social networks—private WhatsApp groups, Discord chats, and larger Facebook/Telegram channels—for “just-in-time” food advice. These interactions show how weak ties can function as informal coaches, offering low-stakes, culturally relevant tips that newcomers can quickly try when local family support is absent.

Marco, a 25-year-old Italian student, relied on compatriot communities to navigate Finnish grocery stores: “I follow some Italian recipe groups on Facebook—it feels like a community where we help each other survive in Finland.” In these groups, members shared substitution ideas and ingredient sources: “90% of ingredients are easy to find [here], but the remaining 10% are harder....The group helped me figure out where to get good guanciale for carbonara.” Similarly, Hashim, an Egyptian postdoc, joined Egyptian recipe groups on Instagram for tips on living in Finland—like locating Middle Eastern shops in Malmi or adapting local products. For him, these ties were “not intimate, but informationally rich,” providing knowledge that close friends or Finnish colleagues could not.

Newcomers particularly leaned on these networks while lacking local culinary references. Pol, a Spanish master's student in Helsinki, relied more on immigrant peers than Finns: “My Iranian friends influenced my food habits more than Finnish people did. I tried Iranian food and cooked with them.” He jokingly framed this as “immigrants teaching immigrants.” Opoku from Ghana emphasized diasporic WhatsApp/Telegram groups for maintaining foodways: “My Ghanaian friends in Finland influence my food more—we share recipes on WhatsApp or Telegram groups and sometimes cook together.” As one of only a few Ghanaians in his area, he said, “without them [group chats], I feel something is missing.” These groups also helped adapt dishes using Finnish products. When making jollof rice, Opoku explained: “I asked in the group what kind of tomatoes and spices to buy here—someone always has an idea.”

Participants valued this advice because it felt culturally aware and doable. Ahmed, a 21-year-old with a Turkish background, ranked “group chats with friends” highest, “highest trust due to friends/social bond,” while placing random TikTok videos at the bottom. He still relied on small online circles for meal ideas: “I rely on my friend who is in culinary school or Discord groups with friends where we share food ideas,” adding that the social bond made advice “culturally aware...and feels doable,” unlike the overwhelming “food hacks” he encountered elsewhere.



Not everyone used large diaspora forums; some preferred tighter circles, but the weak-tie logic remained. Nima, a 29-year-old from Azerbaijan, described a WhatsApp group of seven Azerbaijani students: “We often plan a barbecue on weekends. Food is the reason we meet, and we usually share tips and tricks about food or other things.” Here, the group chat coordinated meetups and enabled micro-learning through repeated online and in-person exchanges.

Participants also stressed speed: Advice could move from phone to kitchen within hours. AmirAli, an Afghan doctoral student, described: “Often my wife sends me an Instagram video during the day; we agree to make the dish, I buy ingredients usually at Itäkeskus, and we cook it that night.” Maziyar, a master’s graduate, asked on Telegram for healthier snack ideas and several people replied within an hour; he applied one suggestion the next day—switching from a sugary pastry to rye bread with peanut butter. These accounts illustrate “just-in-time” coaching via weak ties: Bite-sized guidance that can be tested immediately.

Participants also filtered the volume of online advice and assessed source trustworthiness. AmirAli preferred “Telegram channels that cite sources” and said: “Sometimes I use Instagram too, but I want evidence.” Hashim noted: “Social media can be inspiring but also misleading....I rely more on AI or science news to double-check.” This triangulation—peer tips, followed by verification—suggests weak-tie networks work best alongside other resources.

Overall, digitally mediated weak ties extended immigrants’ food-related support systems. Through group chats and online communities, young men in Helsinki accessed collective knowledge that helped them adapt their foodways in culturally nuanced and immediate ways. Newcomers especially benefited from this “phone-to-plate” pipeline. As Hashim summed up: “Without the Instagram and WhatsApp tips, understanding labels, cooking, finding ingredients—it would be very difficult....They are the most helpful tools for an immigrant.” Weak-tie coaching via digital networks thus operates as a form of social inclusion, mitigating everyday challenges of eating in a new environment by crowdsourcing experience and practical knowledge. These practices strengthen bonds within diasporic communities, while also fostering broader social inclusion in Finnish society. Thus, by using digital platforms to navigate local supermarkets, exchange knowledge about Finnish products, and engage in micro-care with other migrants, participants build confidence, reduce isolation, and develop everyday forms of belonging in the host society.

#### ***4.2. At the Door: Recognition and Micro-Care in Delivery Encounters***

These doorstep encounters are enabled by platforms’ algorithmic matching and the required physical hand-off. Despite their emphasis on speed and ratings, they occasionally open genuine contact zones between migrant customers and migrant couriers.

A novel theme in participants’ accounts was how migrant-to-migrant interactions at the doorstep—during delivery hand-offs—sometimes became moments of recognition, practical support, and micro-care. Although most participants rarely used platforms such as Wolt or Foodora (mainly due to cost), those who did recalled meaningful exchanges with immigrant couriers. Even in compressed, time-pressured transactions, brief conversations carried significance beyond the purchase, suggesting that platform-mediated encounters can become sites of solidarity and knowledge circulation between strangers.

Ahmed described discovering a shared background with a courier: “Once, a courier noticed my Turkish accent, and since he was also Turkish, we had a nice chat about how we ended up in Finland.” Although short, it “left a good feeling—like a little reminder of home.” He also recounted an interaction grounded in shared interests: “A courier noticed my Grateful Dead t-shirt, and we discussed our favorite albums. I try to engage with them because I know service jobs can be draining and dehumanizing; I want to treat them as human beings.” Here, Ahmed explicitly framed doorstep talks as human recognition, with mutual benefits: The courier is acknowledged, and the customer experiences connection.

Ahmed’s approach of “treating them as human beings” was echoed by others who had experienced the grind of delivery work or similar jobs. Opoku, who works as a Wolt courier while completing his master’s in Helsinki, described peer support from the courier perspective: “I remember one time when another courier saw me struggling with my scooter in heavy snow, and he helped me push it. He was from Somalia. We didn’t talk much, but the moment felt supportive.” Although not a customer–courier exchange, it was still enabled by the platform labor context and illustrates micro-care between migrants in public space. Similarly, Sujana, a 35-year-old master’s student from Bangladesh who also works as a Wolt courier, added: “I usually get appreciation from customers as well as tips, which makes me really happy.”

From the customer side, Nima offered a clear example of practical knowledge transfer. Shortly after arriving, he received a delivery from a courier who spoke Turkish (close to Nima’s language):

We had a short chat...he mentioned he was a master’s student at the University of Helsinki. I asked where to find ingredients for a specific Turkish dish, and he told me to go to Itäkeskus or Malmi, where I could get everything for Azerbaijani dishes.

Nima recalled: “Although I have never seen him again, that tip was incredibly helpful—since then, whenever I need specific ingredients, I go to Itäkeskus or Malmi. It was a small tip, but very memorable and useful for me as a newcomer.” In this instance, the courier operated as a cultural broker, and the doorstep became a contact zone where local knowledge moved across migrant networks.

At the same time, participants emphasized that such exchanges were not routine. AmirAli noted: “Usually we don’t chat—they seem busy and leave quickly,” adding that “they looked very busy and were not interested in talking.” Participants linked this to time pressure, deadlines, and ratings, which often constrain interaction. Yet when a connection did emerge, it could be affectively meaningful. Marco recalled one courier who was Italian: “I recognized his accent; we talked a bit about challenges living here and how difficult it is to find good quality Italian pizza here, and I suggested he switch to whole-grain pasta. It was nice and cheered me up.”

This role reversal—customer advising courier—highlights the peer-like nature of these encounters, where shared migrant status can momentarily soften service hierarchies.

Overall, the qualitative material suggests that when time pressure eases—even briefly—or when affinities are quickly recognized, doorstep encounters can become micro-lessons or small solidarities that “feed back” into later practices. Participants who received tips (e.g., Nima’s guidance about where to buy ingredients) reported acting on them. Others described emotional recognition as shaping their sense of belonging. Hashim, reflecting on a short exchange in Arabic about winter, said, “it felt warm and familiar.” In his account, that familiarity

carried into the rest of the day by lifting his mood, aligning with micro-care as small gestures that convey camaraderie within an otherwise impersonal urban routine.

However, when conditions did not allow conversation, deliveries remained utilitarian. Many participants—such as AmirAli and Reza—rarely used delivery apps, preferring to cook or eat at student cafeterias at the University of Helsinki or Aalto University (Unicafe). Their accounts contained few doorstep interactions beyond the briskness of the hand-off, which underscores that such moments are opportunistic rather than guaranteed, depending on willingness to initiate conversation, shared language or cultural cues, and time availability. In this sample, roughly half had experienced a meaningful courier encounter and half had not.

For those who had experienced a meaningful courier encounter, the interpretations often extended beyond the single event. Participants described these moments as evidence that “the city isn’t as lonely as it seems” (as Marco put it) or that “people help each other out here, even strangers” (Opoku’s takeaway from the scooter incident). In this sense, brief doorstep exchanges can counteract isolation by providing mutual recognition. Structurally, platforms inadvertently enable these migrant-to-migrant links because immigrants are often present on both sides of the service encounter. What may appear as a byproduct of the gig economy can, in some instances, become a micro-inclusion event.

In sum, the doorstep—positioned between private and public space—marks a threshold between isolation and connection in newcomers’ everyday lives. These findings add a relational nuance to discussions of platform work by highlighting a human layer of care and knowledge-sharing enacted despite algorithmic constraints.

#### **4.3. Ask the AI: AI as Translator and Tutor in Daily Food Practices**

All ten participants had experimented with generative AI tools—especially ChatGPT—in relation to food, making AI a recurring element in their digitally embedded foodways. They used AI for translation, dietary guidance, recipe generation, and as a conversational partner for refining ideas. Overall, participants positioned AI as more trustworthy than random social media content, yet less authoritative than vetted sources or knowledgeable friends; it was treated as a powerful but fallible assistant. The notion of a “double-edged sword” (or similar phrasing) emerged across interviews, capturing cautious optimism: AI could rapidly reduce language and knowledge barriers, but still required human sense-checking and judgment.

A frequent use case involved translating labels and menus. Participants described difficulty navigating Finnish (and sometimes Swedish) food packaging and restaurant texts. AmirAli, reflecting on use during travel and in Finland, explained: “I photographed many labels and menus and gave them to ChatGPT to list the ingredients—it was super helpful.” He contrasted this with Google Translate, noting that ChatGPT handled context better and could flag certain ingredients. Hashim similarly reported: “I often take pictures of Finnish labels and ask AI to translate.”

Fieldnote observation aligned with these accounts:

In one instance during a grocery run, a young immigrant man was observed scanning a cereal box with his smartphone. When I asked him about it, he explained that, despite eight months of Finnish language studies, he still cannot understand most ingredient lists on products. Consequently, he uses AI or Google Translate to help him.

Collectively, these practices suggest that AI-supported translation increases confidence to try unfamiliar products. For AmirAli, this extended to religious dietary needs: “I use it sometimes for halal checks—if I’m not sure about something in the ingredients, I ask ChatGPT or Gemini, and it explains what it is.” In this sense, AI functions as just-in-time translation and interpretation, strengthening everyday navigability without requiring a human translator.

Beyond translation, participants used AI as a personalized dietitian and micro-tutoring. Nima described ChatGPT as “basically my best friend” for nutrition guidance: “When I want to change something in my diet, I ask it because it’s fast and convenient....I prefer a science-based approach—I ask AI and also ask for references and proof, then check the articles myself.” He commonly followed a practical query (e.g., meal planning) with “can you give me academic references?” framing AI as both instructor and librarian. Reza reported a similar routine: “Often I ask ChatGPT a question and then say, ‘Give me relevant articles,’ and I go and read those to confirm.” Participants thus treated AI as a high-utility intermediary rather than a final authority. Pol emphasized this advantage: “AI understands context better than social media and can personalize advice. It can check diverse sources and scientific papers....I double-check things, but AI gives more balanced information compared to some influencer online.” Indeed, he ranked AI as his primary learning source, ahead of YouTube and far above social networks.

Based on the participants’ responses, efficiency was a major driver regarding AI. Participants repeatedly framed AI as faster than conventional web searching. Hashim explained: “Google takes more time because you have to open many pages until you find what you are looking for. With AI, I ask, and it gives an explanation with sources in one go.” This speed mattered for participants balancing studies, work, and cooking. Opoku described using Gemini or ChatGPT in the moment in the supermarket—“Is this food healthy?”—rather than reading multiple websites. “I use AI regularly,” he noted: “I take pictures of food products and ask AI...or when I see a new product in Prisma, I quickly Google or ask AI if it’s healthy or not.” The value lay in immediate, context-specific guidance that could be acted upon in real time.

Crucially, participants articulated AI’s risks and limitations, often unprompted. Ahmed described AI as “a double-edged sword,” noting that it hallucinates and requires human verification. Maziyar, a heavy user, echoed this skepticism: “It works, but for critical information, you must double-check. You cannot trust it 100%. For example, ChatGPT gave me wrong info about [an unrelated topic]—so critical things must be verified.” He also pointed to the role of prompting and user competence: “Prompts are important. The more details you give, the better answers you will get. Free version is enough for me....But it cannot think like a human—it only analyzes data.” Taken together, these accounts reflect a form of digital literacy: Participants recognized hallucination, calibrated trust, and emphasized cross-verification.

Some participants encountered an overload or cultural mismatch with AI-generated content. Nima noted:

Sometimes they [AI or social media] make things really complicated and long, as I’m busy, I need simple and short advice. If AI and social media do not work for me, I will call my mother—she always knows tips and tricks.

This highlights that if AI’s answer was too complex or not to his taste, he reverted to human help. Also, Nima mentioned checking the comment sections of Instagram recipes to see real-user tips when an AI recipe felt doubtful: “There are usually very useful tips in comment sections.”

In another case, Pol attempted to use ChatGPT to get a traditional Catalan recipe (fricandó, a beef stew). However, he found the output lacking: “For cultural foods, it wasn’t accurate. So, I called my grandmother. She sent me the real recipe. Then I gave her recipe to ChatGPT and asked it to make it step-by-step. So, I combined both.” This is a fascinating example of human-AI collaboration: AI alone didn’t have the authentic accuracy, but once armed with his grandmother’s recipe, it could help format and simplify the instructions, which underscores that AI’s knowledge may have blind spots, especially with niche or deeply traditional dishes, and human knowledge is still crucial.

AI was also used for substitutions and “healthier” adaptations. Participants asked questions such as “What’s a healthier substitute for X?” or “How can I make this dish less oily?” Nima shared a concrete example:

About four or five days ago, I asked ChatGPT for a healthier carbohydrate swap. It suggested using bulgur instead of rice, so I researched it and learned that bulgur causes a lower blood-sugar spike and has more fiber and protein than brown rice. I decided to switch, and since then I’ve been using bulgur as my main carb source.

Hashim described a similar pathway from an AI suggestion to verification: “I asked ChatGPT to give me some tips so I can improve my eating habits; it told me about how frying onions in olive oil changes the glycemic impact of rice. I checked some papers and found studies about fiber and fat slowing digestion.” In these cases, AI acted as an initial prompt for insight, which participants then filtered through external evidence and personal evaluation. Marco’s account further suggests complementary tool use across platforms: “Use YouTube because it’s validated visually. And if something looks helpful, check it with AI. YouTube helps with cooking visually and then AI helps verify what you saw.”

Participants also anticipated an increase in reliance on AI in the coming years. AmirAli predicted: “AI will likely have a positive effect,” adding, “social media influences me less because I want evidence.” Similarly, Hashim stated, “AI for sure will affect my diet more. It’s more reliable and you can ask follow-up questions.” Nima expects that “AI will likely be the main influence” on diets, with social media remaining secondary. Yet, participants also articulated concerns: Ahmed warned about “corporate manipulation where AI-based apps encourage unhealthy habits for profit,” while Mazyar emphasized the need for user competence: “There is helpful information, but People need education to use AI and other platforms correctly and identify trustworthy sources.” These comments point to digital literacy and governance as key mediators of AI’s future influence on food choices.

In summary, participants engaged with generative AI as a tool for translation, education, and ideation within daily eating practices. While AI lowered language barriers and offered rapid, customized guidance (“micro-tutoring”), supporting healthier or culturally meaningful adaptations, participants approached it with informed skepticism, commonly cross-referencing with scientific articles, human advice, or other evidence. AI functioned as a supplement—not a replacement—for the broader ecology of support (friends, family, community, and expert knowledge) that shapes their foodways. As one participant put it: “AI is like a horse—the human is the rider. It assists but does not replace the human.”

## 5. Discussion

This study shows how young immigrant men's food practices in Helsinki are shaped by weak-tie networks, delivery micro-encounters, and generative AI. These platformed foodways also serve as resources for broader social inclusion in the host society. While the empirical material shows strong maintenance of diasporic networks (Arcadu, Zanolin, & Migliorini, 2025), the weak-tie coaching, doorstep micro-care, and AI-supported navigation observed here simultaneously open pathways to the wider Finnish context. By reducing isolation and fostering everyday belonging through digital and relational practices, they extend food-mediated integration processes documented in recent migration-food scholarship. The discussion situates these findings within scholarship on mobility and digitally mediated social relations.

First, my findings underscore the importance of weak ties and networked mobilities in newcomer foodways. As Liu and Yeo (2022) demonstrate, mobile-mediated weak-tie communication significantly enhances migrants' adaptation and sense of belonging, especially in urban environments. Consistent with Granovetter's classic argument that weak ties often serve as bridges to new information, participants relied on acquaintances and community networks via WhatsApp, Facebook, Telegram, Instagram, or AI to obtain timely advice (Granovetter, 1973). This extends prior research on migrant information ecosystems (Moran, 2023) to a demographic (young immigrant men) and a domain (online foodways) that have been less examined. Similar to findings from WhatsApp support-group ethnographies, participants benefited from the low-friction exchange of practical tips and solidarity in group chats (Calvo et al., 2024; Mendivil-Aguayo et al., 2024).

Opoku's Ghanaian recipe chats and Marco's Italian Facebook groups reduced isolation and provided culturally relevant guidance. These weak ties operated as on-demand, "just-in-time" support, where a quick message could shape shopping and cooking choices. The examples also show networked mobility: Advice moves from online groups into offline routines, linking platforms to stores, kitchens, and social gatherings.

Secondly, my results highlight an often-overlooked site of integration, the micro-encounters at the doorstep in platform-mediated deliveries. While much literature on the gig economy emphasizes worker precarity and algorithmic control (Maury et al., 2024; Mbare, 2023), my focus on relational moments aligns with emerging perspectives that, even within highly structured "last-meter" interactions, there is room for human connection and interaction (van Doorn et al., 2023). Indeed, the interviews provided concrete examples of what I term "micro-care," small acts of kindness or knowledge exchange between migrant couriers and migrant customers. In line with Heiland's (2021) argument that gig work is shaped by situated interactions, my data show that shared identity cues such as a familiar name or accent, can briefly disrupt the scripted handoff and create a moment of connection.

Ahmed's effort to humanize his interactions, or Nima receiving a valuable shopping tip from a courier, demonstrates that the doorstep can become a contact zone rich with meaning. These findings support the idea of migrant-to-migrant contact zones: Platform deliveries can create brief connections between people with shared backgrounds that may ease adaptation. As Korver-Glenn et al. (2023) point out, even mundane service encounters can carry significant weight in shaping feelings of belonging for immigrants.

However, such moments were not guaranteed. As AmirAli noted, time pressure and platform norms often prevent conversation, and the variation in experiences suggests that both platform design and individual willingness shape whether micro-care emerges. Still, the presence of any positive exchanges points to small intervention opportunities, such as prompts or community initiatives that encourage brief, safe interaction and reinforce that even short recognition can support inclusion in everyday life.

Third, the findings show that generative AI can function as an everyday integration aid while highlighting the importance of digital literacy (Haman et al., 2024). Participants mainly used AI for translation and dietary guidance, suggesting that LLMs can reduce language frictions and support routine food decisions. In their study, Jahani et al. (2024) highlight that tools like ChatGPT can deliver personalized and multilingual support to migrants, directly aligning with how the participants used AI to interpret food labels or brainstorm meals. In practice, participants used AI to interpret Finnish labels, check halal suitability, suggest healthier swaps, and generate meal ideas—tasks that would otherwise require a native helper or substantial effort. While this aligns with evidence that ChatGPT can support translation, it also requires oversight; accordingly, participants treated AI as a first step and routinely verified its suggestions elsewhere (Niszczoła & Rybicka, 2023).

The present study cautions that, while AI's dietary advice is often sensible, it can misfire in specific contexts (Ponzo et al., 2024). Although men in this study intuitively understood this, many treated AI as a knowledgeable friend rather than a scientist or nutritionist—useful for a first draft or quick check, but to be second-guessed.

One interesting insight is how AI and peer networks complement each other. Participants often bounced between asking AI and consulting their human networks. For example, Nima combined AI references with his mother's traditional knowledge, Pol combined ChatGPT's step-by-step clarity with his grandmother's authentic recipe. This suggests a model of hybrid knowledge-building in which AI augments human support rather than replacing it. In terms of social inclusion, generative AI provided a form of individual empowerment, an immigrant can independently figure out what *hernekeitto* (pea soup) is or whether a Finnish yogurt contains gelatin, without feeling helpless. Though this autonomy can improve immigrants' confidence and ability to participate in local food culture (e.g., trying Finnish dishes with the help of AI translations of recipes), without the ability to critically evaluate AI outputs, there is a risk of misinformation or overwhelm. Participants, mostly well-educated and digitally savvy, largely avoided these pitfalls. They exemplified the “educated rider of the AI horse” metaphor that Maziyar articulated. But not all newcomers might have such a level of skill or skepticism, which points to the importance of digital literacy training as part of integration programs. As Zhao et al. (2025) demonstrate, improving migrants' digital literacy significantly enhances their integration outcomes by increasing access to useful information and social networks.

Connecting back to the “digitally saturated social worlds” theme, this study demonstrates that young immigrants navigate blurred online–offline boundaries in daily food practices. Recipes may be crowdsourced online, executed offline, and shared back online for feedback. Thus, smartphones have become as essential as the cooking pot for immigrant households.

In addition to the above, my findings contribute a gender lens to research on migrant food networks. While much literature on food and integration has focused on women (Bodzan, 2020), the present study shows that young men also engage in significant food work and community knowledge exchange, often through digital platforms. Although the male participants in this study framed their cooking in terms of independence



and health, they readily asked for help and shared advice. This suggests that digital platforms provide a comfortable space for men to discuss food without identity threat, an interesting point for inclusion efforts (Mendivil-Aguayo et al., 2024).

While the study offers rich insights into platformed foodways among highly educated young immigrant men, its findings are situated within a specific Helsinki-based sample and a rapidly evolving technological landscape. Consequently, future work could usefully extend the analysis to other migrant groups, genders, and longitudinal changes in digital practices.

## 6. Conclusion

Everyday food practices provide a rich lens through which to view social inclusion in a digitally saturated world. This study showed that for young immigrant men in Helsinki, food choices and habits are not developed in isolation, but rather are digitally embedded in networks of people and tools. These platformed foodways, therefore, serve as resources for broader social inclusion in the host society by facilitating cross-cultural knowledge exchange, practical adaptation, and everyday belonging beyond diasporic networks. Through group chats and social media communities, newcomers tap into weak-tie networks that act as on-demand coaches for navigating a new foodscape. Through the brief but significant interactions on delivery platforms, such men find moments of mutual recognition and care that can alleviate the anonymity of city life. And through generative AI assistants, they overcome language barriers and obtain personalized guidance that aligns with both local realities and their cultural preferences.

These findings highlight the importance of viewing integration as a relational, dynamic process. The relationships in question include human ties (friends, peers, fellow migrants met by chance) and human–technology relationships (with algorithms and AI). Mobility is evident not only in physical movement but in the mobility of information and support across online–offline boundaries. In Helsinki’s highly digital environment, the smartphone has become as essential as the cooking pot for immigrant households. Indeed, it is a tool for learning, connecting, and adapting on the go.

This study suggests several avenues to bolster social inclusion via food-related channels, including moderated WhatsApp or Telegram groups with vetted cultural coaches, platform encouragement of brief interaction when ratings permit, and culturally adapted AI tools with guidance on safe use.

In the study, though all participants were adept, not everyone will naturally verify AI answers or understand its biases. Thus, providing guidance in integration courses on using Google, nutrition apps, or ChatGPT for daily life could enhance self-sufficiency.

In conclusion, young immigrant men in Helsinki navigate their new food environment by moving through networks (social and digital) that enable them to carry tastes, techniques, and healthy habits across distances. Their foodways become “platformed” not in the sense of being controlled by technology, but in being supported and extended by it. This article has shown that inclusion can happen through something as ordinary as cooking dinner: When that dinner is informed by a friend’s WhatsApp message, a two-minute doorstep chat, or a quick AI consultation, we can see a form of inclusion that is interactive, immediate, and empowering. By embracing the possibilities at the nexus of mobility, relationships, and digital saturation, we

can better support newcomers in not only finding their next meal but also finding community and well-being in the process.

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The author declares no conflict of interest.

### Data Availability

Due to ethical and privacy restrictions, the data are not publicly available. The interview data are stored securely at the University of Eastern Finland and are accessible only to members of the research project.

### LLMs Disclosure

During the preparation of this manuscript, the author used Grok (xAI) primarily for grammar and language editing purposes.

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### About the Author



**Ali Sharifi** is a PhD researcher in social sciences and geography at the University of Eastern Finland. With a multidisciplinary background combining food science, geography, and social research, he holds a master's degree in food science from the University of Padova, Italy. His research explores the intersections of migration, masculinities and gender, food practices, digital technologies, and immigrant well-being in Finland and Nordic contexts.

# Caring From the Middle: On Digital and Intergenerational Links Among the Middle-Aged

Karlina Grivina 

Social Sciences Research Centre, Faculty of Social Sciences, Rīga Stradiņš University, Latvia

**Correspondence:** Karlina Grivina ([karlina.grivina@rsu.edu.lv](mailto:karlina.grivina@rsu.edu.lv))

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## Abstract

The article offers a novel perspective on digitally linked lives through the health-related practices of middle-aged people. Widely accessible devices, such as mobile phones and wearables, generate a wealth of data. They enable users to monitor physical activity and bodily measurements, undertake family-based challenges, and participate in gamified activities. The article draws on ten semi-structured interviews conducted in Latvia in 2025. The analysis shows that everyday engagements with these technologies range from common mobile phone applications to specialized smartwatches and measurement devices, depending on the practices users wish to pursue. Crucially, these devices are employed not only for individual physical activities and bodily monitoring but also for sharing data, keeping track of others, and learning about the well-being of family members. In this way, such technologies reshape the dynamics of close social ties and everyday family interaction. Middle-aged individuals emerge as a binding link, shaping the health-related practices of both younger and older kin. At a time when family life unfolds simultaneously across multiple places, and distance frequently separates family members, digital links enable forms of collective agency in which middle-aged people often play a pivotal role in caring for themselves and others. I conclude that digital technologies function as a medium that strengthens social ties, extends relations of care, and reshapes family dynamics around health-related practices.

## Keywords

agency; digitally linked lives; intergenerational care; middle age; mHealth; wearables

## 1. Introduction

Midlife is a vital phase in the life course, but has long remained neglected in theoretical inquiry (Hopkins & Pain, 2007). Although an emerging body of scholarship has begun to address this gap (Lulle, 2024a, 2024b), I take my cue from Barron's (2025) argument that thinking theoretically about "the middle" of the life course is a relationally rich exercise. To be in the middle is to occupy a position of both perspective and obligation: It may offer a broader view and greater capacity to act, but also entails intensified responsibility for others. Care binds families, friends, and communities through exchange and solidarity, but also through love, altruism, and spirituality (Phillips, 2007)—a vital element of strong social ties linking individual practices of agency to interdependent lives (Baldassar & Wilding, 2020; Elder, 1994). From the perspective of being "caught in the middle" (Brody, 1985), the middle generation frequently shoulders responsibilities well beyond its own immediate interests. Although cultural differences shape expectations surrounding family relations and childcare (King et al., 2017; Lulle & King, 2023; Xia et al., 2024), no system of social policy can fully substitute for human assistance, and care across generations continues to fall in profoundly gendered ways, especially upon middle-aged women (Brody, 1981).

Midlife is defined differently across European countries and linguistic contexts (European Social Survey, 2021): It may be understood as the prime of life, a threshold to aging, or the middle of an anticipated lifespan. On average, Europeans no longer consider people young after the age of 41, and old from around 64 (European Commission, 2012). In the Latvian context, this study defines midlife as the period between 40 and 65 years old, considering the striking fact that healthy life expectancy in Latvia stands at only 54.3 years for women and 51.2 years for men—the lowest in the EU (Eurostat, 2023a)—around a decade shorter than the official retirement age of 65. Similar patterns persist across parts of Eastern Europe, including the Baltic states, Romania, Bulgaria, Slovakia, and Hungary, where healthy life expectancy remains considerably below the EU average. Closing this gap has been identified as a major policy priority (European Parliamentary Research Service, 2025). Caring more effectively for one's health and well-being is, therefore, not merely desirable but an urgent social and political task.

This article asks: How do middle-aged individuals use digital devices for health-related activities, and what do these practices reveal about personal, interpersonal, and intergenerational care? To address this question, the article first situates the discussion within Latvia's structural context of care, highlighting the demographic and socio-cultural conditions that shape family responsibilities. It then reviews the role of technology in everyday life, with particular attention to self-tracking and wearable devices. Building on this, the following section considers the significance of the middle generation—often described as the "sandwich generation"—through a life-course lens attentive to linked lives, transitions, and active agency. Midlife emerges as a distinctive phase marked by care relations, intergenerational obligations, and possibilities for personal development, within which digital technologies increasingly mediate everyday routines and social ties—serving not only as tools for monitoring health and productivity but as instruments through which family bonds are sustained and care coordinated across generations. The methodology and analysis demonstrate that health-related practices and uses of technology are deeply embedded in existing relationships and entangled with obligations towards both younger and older kin. The empirical findings show that practices of care frequently intersect with the domain of individual agency, as data sharing and monitoring reshape the dynamics of trust, responsibility, and attentiveness between people. The article concludes by outlining its contributions to scholarship on midlife and digital technologies of care, illuminating the central role of the middle generation in familial well-being and connectedness.



## 2. Country Context: Household Structure and Health Challenges

Over the past three decades, Latvia's population has steadily declined, falling to fewer than two million inhabitants due to several waves of migration, beginning in the 1990s (Central Statistical Bureau [CSB], 2025a). As in many European countries, the aging population in Latvia is placing increasing social and financial pressure on those of working age (United Nations, 2024). In contemporary Latvia, middle-aged people account for roughly one-third of the population. Latvia also follows the broader EU trend of young adults remaining in their parents' households (Eurostat, 2024), alongside a still high number of households in which several generations live together (CSB, 2025c). Simultaneously, household structures remain highly diverse: One-third of households with children are single-parent families, predominantly headed by single mothers (CSB, 2025c, 2025d); 40 percent of families with children are single-parent households sharing a home with other relatives (CSB, 2025b); and a similarly substantial proportion of the population lives in single-person households (CSB, 2021). In such a context, strong social ties assume particular significance.

Their importance is heightened further by the fact that only 49 percent of the population reports their health as good, one of the lowest shares in the European Union (Eurostat, 2023a). Public expenditure on health in Latvia remains below the EU average across all areas of care (OECD & European Observatory on Health Systems and Policies, 2025), a pattern also evident in several other Eastern European and post-Soviet countries (OECD, 2025). The Latvian healthcare system is marked by quota-based access and long waiting times, while private health expenditure is approximately twice the EU average (OECD & European Observatory on Health Systems and Policies, 2023). Meanwhile, unhealthy diets, insufficient physical activity, and high levels of alcohol and tobacco consumption—particularly among men—continue to contribute to the burden of non-communicable disease (OECD, 2020; World Health Organization [WHO], 2024). Premature mortality from cardiovascular disease remains especially high not only in Latvia but across Eastern Europe (WHO, 2024), underlining the continuing relevance of a European “health divide.” Since primary prevention is crucial in reducing one of the highest rates of preventable mortality in Europe (Behmane et al., 2024, p. 17), the middle generation becomes a particularly important social resource: often parents of dependent children, socially and professionally active, and embedded in strong kin and social networks, middle-aged people may possess the material and relational means to care for those closest to them, even as many are themselves negotiating age—or lifestyle-related health challenges.

## 3. Digital Lives

Technologies increasingly reshape everyday life by providing support, entertainment, and social connectedness, helping people overcome distance even when divergent schedules, routines, and obligations separate them (Baym, 2015; OECD, 2024b). Devices now function as digital assistants that measure productivity, guide movement through space, and facilitate a wide range of mundane tasks, thereby deepening the automation and infrastructural embedding of daily life (Epstein et al., 2020; Pink et al., 2022). For those tracking bodily parameters, emotional states, and everyday activities, such technologies also offer an alternative way of knowing the body: They enable people to think through, as well as with, information about themselves (Lupton, 2014c). In this sense, digital devices generate an extended sense of embodiment and personhood. They operate as digital twins (Turkle, 2011) or data doubles (Ruckenstein, 2014), transforming bodies into streams of data that may be observed at a distance, both by oneself and by others (Ruckenstein & Dow Schüll, 2017).

Smartphones, smartwatches, fitness bracelets, and smart rings fall within the broad field of mobile health, or mHealth, which the WHO identifies as an important means of supporting health systems and broadening accessibility. The WHO (2011) defines mHealth as “medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants, and other wireless devices” (p. 6). These technologies are also increasingly used alongside formal medical examinations and health management practices (Neff & Nafus, 2016), although uncertainty persists regarding the accuracy, consistency, and comparability of wearable data, including within the research community itself (Huhn et al., 2022). Nevertheless, the growing uptake of such devices contributes to an active and self-conscious lifestyle, offering users gamified features, opportunities for comparison, and other motivational mechanisms (Yfantidou et al., 2023). As “technologies individuals carry on their bodies daily” (Ask & Søråa, 2023, p. 137), mHealth devices provide real-time information about bodily functions, such as heart rate and oxygen saturation, as well as activity metrics including speed, distance, and movement intensity.

The quantified self has emerged as a significant mode of contemporary self-relation, in which tracking bodily data is used to understand one’s capacities, habits, and present well-being. Yet it also creates new possibilities for sharing that self-tracking information with others (Kitchin, 2025). Such data can foster a sense of control over the body, offer a vision of self-improvement, and help individuals select appropriate activities or set particular goals (Fors et al., 2019; Lupton, 2014a). At the same time, shared visualizations may enable users and those closest to them to make healthier choices and participate in forms of collective encouragement and accountability (Haapio-Kirk et al., 2024), as part of an increasingly digitalized wellness culture (Smith et al., 2024). Through sustained engagement, mobile devices become part of more-than-human relations that shape self-perception and everyday practice (Clark & Lupton, 2023). They also create additional ways of relating to others, including through non-human elements such as platforms, interfaces, metrics, and alerts, thereby unsettling any simple distinction between the private body and a more collectively perceived or mediated image of the person (Haraway & Wolfe, 2016).

Deborah Lupton identifies five modes of self-tracking: private, communal, pushed, imposed, and exploited (Lupton, 2014b). This study focuses primarily on private self-tracking for personal care, but it also examines how such tracking may become communal within families and close social ties through digitally mediated everyday practices. Thus, the article moves beyond an individualized reading of self-tracking to show how digital health practices are embedded in relational lives, particularly intergenerational relations of care.

#### 4. The Middle-Aged and Digital Devices

In an era of self-tracking and health datafication, the welfare state increasingly transforms healthcare into self-care (Ruckenstein & Dow Schüll, 2017), shifting responsibility to the private sphere (Hawkins & Miller, 2024). As public funding competes with growing security expenditures (Mang, 2025) and welfare scenarios raise concerns about family responsibilities (Garattini & Prendergast, 2015), the role of strong social ties gains importance. Middle-aged persons often live as a generation “in between”—embedded in connected lives with children, parents, or other relatives—sometimes called the “sandwich generation” (King et al., 2017; Lulle, 2024b; Miller, 1981), maintaining careers and households while providing resources to those less settled or less independent. With the increasing childbearing age and rising fertility rates among mothers aged 30 to 49 (Eurostat, 2023b; OECD, 2024a), midlife is a dynamic period of family relations: Care for often still minor children sits alongside support for aging parents and elderly relatives (Verity et al., 2024)—in some cases across

borders (Wilding & Baldassar, 2018). Increasing global mobility heightens the risk of relational distancing, with growing research examining how digital technology sustains transnational relations and social support networks (Nguyen et al., 2022). Digital communication and “virtual forms of care” are becoming increasingly significant, particularly in aging populations (Wilding & Baldassar, 2018), with “aging in networks” (Ho et al., 2024) and “digital kinning” practices identified as important for older generations in maintaining relations and well-being (Baldassar & Wilding, 2020). Wider kin networks—siblings, aunts, uncles—similarly sustain intergenerational and cross-border family support (Budginaitė-Mačkinė & Juozeliūnienė, 2023).

To capture its distinctiveness, the middle generation should be viewed through its own lens—as a time when past experiences are examined (Baglia, 2019) and future possibilities reimaged (Hagerty, 2017). A life-course-sensitive approach provides this view “from the middle,” giving long-overdue attention to midlife as “differentially lived” (Barron, 2025), and deepening the understanding of the “meaning of middle-age” (Hopkins & Pain, 2007)—not only as support to others, transition, or crisis (Lulle, 2024b), but as a unique and rich passage in a person’s life. This article builds on the life-course perspective (Elder, 1994), arguing that two of its principles—linked lives and individual agency (Bengtson et al., 2005)—offer fruitful ground for exploring digital health practices across social, institutional, and temporal contexts. Individual agency, built on “planfulness, self-efficacy, and optimism,” shapes one’s life trajectory through actions and decisions (Bengtson et al., 2005; Elder, 1994; Elder & Johnson, 2002), while its socially interconnected nature unfolds through linked lives as individuals navigate their choices (Elder & Johnson, 2002; Lulle, 2024a, 2024b). Digital technologies, meanwhile, facilitate tracking the body, communicating with others, and expressing care—though as individualism in aging varies across cultures, greater attention to the “social relational and intergenerational dimensions” of “successful aging” is needed (Nguyen et al., 2025). Digital interaction may, however, also undermine close social ties: Device-mediated contact risks being perceived as a substitute for care (Di Tullio & Gómez-Cruz, 2025), and shared self-tracking data may function as a control mechanism, rendering previously unknown aspects of a person’s body and life visible to others (Ruckenstein, 2014).

## 5. Methodology

The article draws on data collected during the initial phase of doctoral studies at Rīga Stradiņš University, Latvia, from July to December 2025. Ten semi-structured interviews were conducted with middle-aged Latvian residents, lasting 1–2.5 hours, both in person and online via Microsoft Teams. In-person sessions were transcribed using MAXQDA transcription; online interviews used MS Teams’ real-time transcription, and all transcripts were subsequently reviewed and edited. Interviews were conducted in Latvian; participants were identified by pseudonyms, with sensitive information omitted to protect anonymity. All participants were in their 40s or 50s, except one male aged 61. The semi-structured format allowed participants to reflect on their experiences, life paths, and current realities. Most work in office-based settings across a range of sectors—arts and design, manufacturing, retail, business administration, civil service, and education—with two self-employed and two homemakers. Most have children ranging from kindergarten to university age; family status varies between single, partnered, married, and divorced. Participants were recruited through recommendations and social media using snowball sampling, with the key criterion being the use of at least one mHealth technology—a mobile health app, smartwatch, or smart ring. The sample spans lifelong physical activity practitioners and those who became more health-conscious in their 30s or 40s, encompassing daily step counters, yoga and meditation practitioners, gym-goers, cyclists,

joggers, and marathon runners. Some noted early signs of aging and a growing need for self-care; others had faced non-communicable diseases and serious health challenges. Interviews covered daily self-tracking activities—sleep, meditation, walking, gym sessions, and running—while eating habits were only addressed where participants themselves linked them to physical activity and well-being.

All interviews were coded using open coding, with transcripts organized into three topics—health, technology, and community—each subdivided to capture informants' accounts of aging, body perception, health matters, and information sharing. The technological dimension foregrounded digital communication, motivational elements, usability, and competitiveness; the interpersonal dimension addressed the role of family and community. Given the article's scope, two topics were selected, highlighting the self-care and intergenerational dimensions of care within individual health-related practices in midlife. Interviews were transferred to MS Word for coding, with a coding scheme developed in MS Excel.

## 6. Results

### 6.1. *Time is Coming: It's Time To Care*

Viewed through a life course lens, the interviews reveal a moment of transition in midlife when more intentional care for health and well-being begins to form, and when following bodily and activity data is increasingly seen as necessary for better outcomes. For participants, changes in appearance or bodily sensation—excess weight that makes everyday tasks more difficult, disrupted sleep, medical diagnoses, persistent low mood, or mental overload—prompted turning toward more deliberate forms of self-care:

It's taking greater responsibility for my own body and well-being, for my quality of life, and thinking about the next 30 to 40 years. (female, 40–44 age group, divorced, with children)

Men in the study more often emphasized declining physical capacity or illness as the threshold where health began demanding greater attention. Gatis, in his mid-forties, described the daily step count as a prompt that pushes him outdoors, among other people, and away from a depressive mood associated with solitude. Oliver, in his early sixties, walks and cycles regardless of the weather, combining physical activity with a strict diet to prevent the progression of a genetically inherited illness—a trajectory that also resonates with broader patterns in Latvian men's health, which often worsens after the age of fifty. For Edgars, self-care is an ongoing struggle shaped by repeated oncological procedures; in the intervals between flare-ups, he carefully tracks bodily data and works to regain strength while still in his fifties.

Among the women interviewed, visible and felt bodily changes more often served as the immediate trigger for more intentional self-care. Kate noticed the first signs of aging during yoga practice. Inga, struggling to walk upstairs after shopping, challenged a friend to lose weight together. Aiga took up morning jogging as weight management became more difficult in her mid-forties. Several women explicitly referred to the age of forty as a turning point after which both physical and mental self-care had to be taken more seriously. Zane began tracking her sleep patterns, documenting a strict diet, and recording and analyzing the results of physical activity; she even challenged herself to run for several months, sharing her progress digitally as a way of sustaining motivation. Laima resumed running in order to “organize my head,” while Ivonna did so to “reorganize my body”:

Then I realized I was already forty. Something probably needed to change; something was beginning to shift in my body, and I understood that physical activity is necessary if you want to feel better. (female, 40–44 age group, married, with children)

I started running again because I wanted, primarily, to regain some kind of mental balance, and also perhaps a sense of physical well-being. (female, 40–44 age group, married, with children)

Alise also spoke enthusiastically about having recently adopted a more physically active way of life through running. For her, this brought a sense of optimism toward the years ahead—particularly as she reflected, in her early forties, on the health difficulties her parents had faced and the care she herself had provided. Her account closely echoes Brody's (1981) portrayal of the midlife woman as a key source of support for older generations.

The richness of midlife self-care is thus revealed in the variety of its motivations and the different scales at which these practices unfold: for some, it's a life-altering decision; for others, a moderate but meaningful adjustment in lifestyle; for others still, a desired goal gradually worked towards. These accounts correspond closely to Barron's (2025) understanding of midlife as a space of considerable heterogeneity—not a linear path, but a rich and meaningful passage shaped by lived experience and imagined futures (Baglia, 2019; Hagerty, 2017). At the same time, they underscore the active and intentional character of midlife agency.

#### 6.1.1. Monitor the Progress

Across the interviews, devices emerge as always-present companions—playing a supporting role through “sensory nudges” (Ruckenstein & Dow Schüll, 2017) and self-tracking data. Those who've tracked for longer, mostly in their 50s or older, describe how evolving device functionality has reshaped their practices and information sharing within communities. For newcomers to physical activities, a low entry threshold matters: “you only need shoes” and “it's okay to start slowly, little by little.” Meanwhile, devices provide supportive information about progress toward goals:

I have a smartwatch, and I basically only take it off when I'm charging it. I really do check it all the time....I bought it because of the steps. My goal was to reach 10,000 steps a day, and I needed a way to measure it. (female, 40–44 age group, divorced, single mother)

It all started when I read somewhere that the Apple Watch counts steps, and I think that was a few months before I decided I needed to lose weight. (female, 45–49 age group, married, with children)

Interviews described self-tracking practices as indicating concern for one's own well-being and a desire for a brighter future. They're seen as trackable proof of the time and effort invested and a representation of care for one's health. More steps, longer distances, or improved heart rates become visual markers of successful self-care; described with pride, they distinguish the better self today from the one before, and even from a wider Latvian population whose health rapidly worsens with age. This pride and comparison highlight individual agency, underscoring the insufficiency of state healthcare provision and the limited reach of public health initiatives, reflecting a broader shift from public responsibility for healthcare to self-care (Hawkins & Miller, 2024; Ruckenstein & Dow Schüll, 2017). Individual ability for trackable improvement is seen as a promise of a better future, bringing a person closer to settled goals—losing weight, improving sleep,

or becoming stronger. Better results foster optimism about one's abilities and confirm effectiveness, consistent with Elder's (1994) description of active agency, while offering a sense of control over one's body (see Lupton, 2014a) and, with it, a claim on one's own future:

It's the feeling that something has been achieved, that something has improved....It's like a grown-up's toy; you can just see when something has been accomplished. And that's how I feel—proud that you are who you are, that you can do it, when you really see that you're making progress....It's basically a record, proof. (female, 45–49 age group, married, with children)

When I started running, I realized I needed a smartwatch. It was helpful to have something that wasn't just for myself, internally, but that actually showed me how much I'd run. Whether I'd done 3 kilometers, or maybe even 3.2 km, the next day! (female, 40–44 age group, married, with children)

Those living with chronic illness draw on mHealth technologies for additional reasons. Edgars recalled how his smartwatch flagged anomalous readings despite stable prior data and no symptoms he could feel—and how, shortly after, he was diagnosed with a non-communicable disease, convinced his device had detected it before either he or his doctors had:

These indicators [smartwatch measurements] tell me a lot....I'd caught a slight cold, and afterwards I couldn't recover properly, even though the cold symptoms had already disappeared....I went to the doctor, and...was admitted to the hospital with a diagnosis. (male, 55–59 age group, married, with children)

Now in recovery and in his fifties, Edgars tracks physical activity against pre-illness results via his Garmin app, analyzes the data alongside clinical check-ups, and even presents findings to his doctor—convinced that close monitoring may prevent further illness and prompt earlier intervention, despite acknowledging that wearable devices are less precise than hospital examinations. Oliver, similarly, follows his doctors' prescribed lifestyle, using self-tracking data to confirm adherence, with the alternative being lifelong medication. Both practices reflect Neff and Nafus' (2016) concept of "bridging home and clinic"—private self-care supporting clinical care, and everyday activity rendered into measurable, "objective" information.

This research identifies invisible wear as another facet of mHealth use. Gatis dislikes wearing a smartwatch and has intentionally switched to his phone alone—kept in a pocket, even at the cost of less precise step or distance counts—deliberately avoiding sharing his data with others. Where Ruckenstein and Dow Schüll (2017) described bodies transformed into data flows, Gatis quietly resists and draws borders: keeping his body as "digital-free" as possible, limiting what is tracked and on what terms, yet choosing to use mHealth data to measure his desired progress and motivate himself daily.

## **6.2. Communal Nature of Self-Care**

Almost all participants named a close friend, relative, or colleague who encouraged them to start—someone who led by example and made it believable that the activity, whether thirty minutes of jogging, 10,000 daily steps, or mountain biking, could be "survived." Through these support stories, the nature of linked lives becomes more potent (for a description of midlife Latvians navigating work challenges in migration, see Lulle,

2024a, 2024b). Encouraged by their own progress, participants often became “teachers” in turn—underlining the significance of social ties in bottom-up health-related practices—which is particularly important in the context of persistently low population health, where state institutions have long fallen short, as in Latvia and much of Eastern Europe.

Partners play a particular role: A physically active husband or health-conscious wife, through example and everyday care, draws the other toward a more active lifestyle. Several women recalled their first running experiences at midlife as initiated or shared with a husband, valued both as motivation and time spent together. Through such practices, caring for one’s own health quietly extends to those most closely linked:

The first times were really lovely, because in those moments, to understand what running actually is, we ran slowly. We talked a lot during that time together. (female, 40–44 age group, married, with children)

And as for running—it was because my husband ran. So I thought, maybe I should try it. Even though I’ve always said I hate running. (female, 40–44 age group, married, with children)

Since my husband had a heart attack last summer, he also needs to move—he needs to walk as much as possible. Because I’m quite active myself, it also motivates him a little. (female, 45–49 age group, married, with children)

Other accounts point to the quiet role of friends and colleagues. Oliver recalls a friend who encouraged him to be braver and try new activities; a man in his mid-forties describes how a friend, without pressure, sparked his interest in running together; a woman in her mid-fifties warmly remembers colleagues—running men and women—whose encouragement set her on a path to sport some ten years earlier:

The main motivator for me—whether to start cycling or running—was definitely having someone else to do it with. Someone who would encourage me: “No, no, it’s not that hard, you’re not clumsy. You can do it, too!” (male, 60–65 age group, married, with children)

At first, I had such a positive experience (with my colleagues) that it was more inspiring and provided guidance. And after that, you’re already slightly more seasoned. (female, 55–59 age group, single, without children)

### 6.2.1. Digitally Mediated Community

Participants share stories of how they find and provide support through digital connections; often, in WhatsApp and smartwatch applications, they exchange self-tracking results in a more “playful manner,” and, at times, compete:

My girlfriend and I have agreed to set a weekly challenge [via a smartwatch application] for ourselves. (female, 40–44 age group, divorced, single mother)

A woman in her early 40s relies on her circle of semi-professional running friends and a WhatsApp group through which shared experiences, mutual support, and regular check-ins on each other’s results and



well-being flowed naturally. This supplements their private Strava community, where data snapshots from competitions—body measurements, distance, speed, and altitude—are shared and discussed. She credits this network with helping her achieve surprising results and giving her greater confidence in her own ability to reach her goals:

My friends who ran were incredibly helpful. Talking with them helped me validate how I felt about everything and how I could get back into shape....And soon after I started running again, I ran my first half-marathon! (female, 40–44 age group, married, with children)

For Alise, digital communities offer more than activity tracking: belonging, shared information, and a collective investment in one's future. She chose her smartwatch specifically to join her colleagues' running community, noting that brands tend to form closed communities around shared data. A WhatsApp group runs alongside her Garmin community, where they decide on challenges, tally points, and exchange encouragement. Zane similarly layers Samsung community functions with WhatsApp chat for sharing self-tracking data, joining in challenges, and exchanging frustrations and support with close friends and family. Across these accounts, digitally mediated ties reinforce rather than replace other forms of closeness—creating a multilevel support network that displays affection and support as a mutual form of care, while simultaneously helping each other reach their goals.

Others described sharing self-tracking data as a form of accountability. Knowing a friend or relative could see their progress added a sense of responsibility and motivation to continue, consistent with Haapio-Kirk et al.'s (2024) engaging effect of shared information, and with Ruckenstein's (2014) finding that greater data visibility motivates more active participation. Visibility and simple competitiveness appear encouraging tools—what begins as individual self-care transforms into collective practice, sometimes even with a joint goal—losing weight or preparing for a race:

Just as I was socially active [by sharing my results], I could also be physically active, because it worked for me to be accountable to someone. And I have that feedback and sense of responsibility. (female, 40–44 age group, divorced, with children)

### **6.3. Intergenerational Nature of Health-Related Practices**

Interviews reveal caring activities that extend well beyond midlife. Care reaches both younger and older generations. Female participants often described the physical activities they shared with their children. Stories reveal how active, health-conscious mothers form healthy lifestyle patterns in their children. Male participants, too, spoke of conversations and shared activities, though most were reluctant to impose; notably, two of the three had already grown-up children, while female participants were largely in early midlife with younger offspring. A woman in her 40s, for instance, describes guiding her early teen daughter into trail running—passing on what she herself had learned from her husband:

I go for a run with my daughter; we run according to her feelings. I don't consider it my workout, but more of a way of teaching my child to be in the forest, to run...with breathing. (female, 40–44, married with children)

Another woman recalled cycling and orienteering with her son to teach him an active, healthy lifestyle—a sentiment echoed by other participants, who described exercising with children as both a form of care and an investment in their health. Inga, even though she never exercised directly with her now-adult daughters, not wishing to impose, takes pride in their healthy choices and attributes them to her own lifestyle change. Even when family members' schedules and interests no longer align, they remain physically active—reflecting Pearlín et al.'s (2005) emphasis on childhood experiences shaping choices across the life course.

Another dimension of intergenerational care concerns midlifers and their elderly parents. Participants described shared self-tracking activities with older family members in several forms: as an exchange of well-being information; as a means to nudge relatives toward more active self-care; or as quiet encouragement to monitor their health—practices that extend what Baldassar and Wilding (2020) call “digital kinning.” Following Phillips (2007), such care involves mutual reciprocity and solidarity, expressed differently across each account. Aiga's story illustrates this well: Visible changes in her health and appearance drew her siblings into more active engagement with their own health, in turn reshaping how they cared for their elderly mother—weaving mHealth practices into what had long been a close network of family support. She recalls morning phone calls with her sister—both jogging in different cities at a zone 2 pace, slowly enough to talk freely—exchanging health insights alongside sisterly support on family matters:

At one point, we went running in the mornings—I ran earlier than usual, and she rang me at six; then we had time to talk. As they say, a good run is when you can talk, as we laugh—for us, it's like maintaining the right heart rate so that you can talk. (female, 55–59 age group, single, without children)

Empowered by their positive experience, the siblings gifted their elderly mother a smartphone, encouraging her to take up daily step counting, which, she believes, drew her more deeply into neighborhood life through her step-counting walks. Nevertheless, the mother declined a smartwatch as she was unwilling to confront the level of health details it might reveal or the unexpected issues it might uncover. Meanwhile, the family stays connected through calls and chats, checking in on her step counts in a light-hearted way. In doing so, individual agency extends its reach and optimism, involving others in a more active role and prompting an unexpected relationship with the local community.

Zane's family offers a similarly illustrative case. When their mother's sedentary lifestyle began affecting her health, the family drew her into a shared digital community centered on step counting and nationwide team challenges. Her story reveals how collective and visible dimensions of such participation generate a sense of responsibility across generations—a layer of commitment extending well beyond individual activity tracking. Her mother has since adopted a more active, digitally visible lifestyle, sustaining close intergenerational connections across both physical and digital worlds:

In the Samsung family challenge, we connect with each other by linking our watches—we join the app as a group. And we see progress every day. (female, 40–44 age group, divorced, single mother)

Alise, an avid self-tracker, offers a counterpoint: a reminder that care practices must be mutually accepted, or they risk becoming an imposition. Her mother had bought a fitness bracelet for medical reasons, but couldn't get used to it and stopped wearing it. Alise's attempts to lead by example—running to her mother's home, sharing her own experience—sparked no greater involvement. She cares deeply and believes a

lifestyle change could make a difference, yet acknowledges she cannot press her mother toward data she doesn't wish to see, nor toward an activity she hasn't chosen. These stories trace a fragile boundary: between digitally mediated care and the unwanted supervision of another's body. Furthermore, interviews reveal that when self-tracking results are visually displayed, younger generations and those with more active lifestyles have a natural advantage; this can make competition intense and, at times, discourage others. Older, more sedentary relatives find themselves with visual proof of others' strength, dynamic lives, and their own passing abilities—a gap that can feel as much of a deterrent as a motivator.

## 7. Discussion

In a rapidly changing and digitally saturated world, marked by population aging and wider global insecurities, the support people seek from and extend to one another assumes profound importance. The interviews suggest that technologies don't substitute human care—whether within households, workplaces, or friendship circles—but rather add a further layer to it: providing motivation to begin, encouragement to persist, and new ways of attending to one's health while engaging with others. In this sense, the digital dimension of linked lives extends well beyond communication alone. Self-tracking offers middle-aged individuals a new way of seeing and motivating themselves through bodily and activity data. It becomes a digital representation of individual agency, and often its confirmation: a source of efficacy, potency, and an expanded sense of possible action.

At the same time, digital information doesn't carry a singular meaning. For some, it serves as a warning; for others, as an incentive, a spur to discipline, or a source of competitive energy. Activity data, such as daily step counts, can become a visible sign of a person committed to self-care and a healthy way of life, and even a basis for distinction. Remote monitoring and data sharing also introduce a new dimension of commitment to what might otherwise appear as an individual domain. Participants described feeling responsible for others involved in shared challenges: not wanting to come last or disappoint the group, and not wanting to let their community down. These practices are therefore not merely playful exercises or demonstrations of individual achievement. They are also ways of expressing community contribution, commitment, and care.

As the middle generation engages in health-related practices to prepare for future decline or respond to present difficulties—to feel better, become stronger, or in some cases reduce bodily strain—these efforts extend well beyond the self. They shape children's habits, inspire friends, and at times disrupt the more settled routines of older generations. What may begin as self-care thus frequently develops a relational reach. This is especially significant in midlife, where agency is often exercised not in isolation but through intertwined obligations, affections, and responsibilities across generations. Seen from this perspective, digital devices don't simply support healthier behavior; they mediate and intensify relational forms of care within linked lives.

I acknowledge that, as part of ongoing doctoral research, these findings primarily reflect a predominantly white-collar and urban perspective. The snowball sampling method necessarily limits the scope of the results, and the findings cannot be extrapolated across different social, class-based, or socio-cultural settings. No claim to universality is therefore made. Future research should examine more differentiated experiences of midlife, including gendered variations, and include voices from a wider range of midlife stages as well as rural and smaller urban contexts. Such work would deepen the understanding of how health-related practices in midlife

vary across social groups and what these everyday practices reveal about self-care, responsibility, and the agentic character of this life-course stage.

## 8. Conclusion

Latvia, as an Eastern European context marked by persistently weak public health indicators and chronic underfunding, offers a particularly vivid example of a setting in which responsibility for health is, to a considerable degree, devolved onto individuals. Yet a closer examination of midlife reveals this stage of the life course, not simply as a period of burden or decline, but as one that is resourceful, adaptive, and potentially generative. Heightened awareness of time, intergenerational obligations of care, and the resources available to people all actively shape human agency and everyday practice in this phase of life.

Through mHealth technologies, participants transform body data and activity measurements into comparable indicators of progress, trusting that these support preventive health practices while also fostering a sense of capability, steadiness, and optimism about the future. Yet because these practices unfold within the interdependence of closely linked lives, self-care acquires a distinctly relational character, reinforcing proximate social relations and strengthening intergenerational ties. Wearable technologies bridge virtual support, competition, and a shared sense of endurance or survival. Viewed, then, “from the middle” (cf. Barron, 2025), such technologies emerge not only as motivational tools but also as binding non-human elements within everyday relations of care.

At the same time, the sharing of self-tracking results may also unsettle family dynamics by foregrounding digital achievements, bodily discipline, and enthusiasm for health-related practices in ways that occasionally generate tension or unexpected competitiveness. Health-related practices can thus shift the traditionally private domain of body-tracking into a more public and relational sphere, and not everyone welcomes the blurring of boundaries between individual decisions about self-care, familial involvement, broader communal visibility, and the sharing of personal results.

The study further suggests that wearable-based communities add a relational layer that may strengthen social ties, even among relatives who already live in geographical proximity. These digital communities bind personal relationships through individually generated—and often intensely bodily—data, combined with physically demanding yet digitally shared experiences. In this way, digital technologies introduce an additional layer of shared knowledge, mutual attentiveness, and care practices rich in social meaning.

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The data used is confidential.

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## About the Author



**Karlina Grivina** is a researcher at the Social Sciences Research Centre, Rīga Stradiņš University, Latvia. Her research centers on digital technology and health across the life course, particularly in midlife. She holds an MA in sociology (University of Latvia) and an MA in humanities/semiotics (University of Tartu).

# Caring at a Distance: Digital Anchors and the Relational Work of Academic Mobility

Olga Cara <sup>1,2</sup>  and Ieva Puzo <sup>2</sup> 

<sup>1</sup> Institute of Education, University College London, UK

<sup>2</sup> Faculty of Social Sciences, Riga Stradins University, Latvia

**Correspondence:** Olga Cara ([o.cara@ucl.ac.uk](mailto:o.cara@ucl.ac.uk))

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## Abstract

This article examines how Latvian early-career researchers in the United Kingdom navigate academic mobility by cultivating relational moorings through digitally mediated practices in their professional and personal lives. We introduce the concept of digital anchors—socio-technical infrastructures that sustain affective stability and continuity, and afford care under conditions of ongoing movement and precarity. Digital anchors are not reducible to individual platforms, devices, media choices, or communicative practices. Rather, they function as relational infrastructures across spatial separation by stabilising rhythms of interaction. Using life history interviews with ten early-career researchers, we analyse how digital anchors enable the orchestration of transnational care, support, and collaboration, while also revealing the techno-emotional gaps. We provide an in-depth engagement with biographical narratives that illuminate processes that remain largely invisible in large-scale mobility statistics and macro-level datasets. The findings show how professional trajectories and personal lives intertwine, as digital anchors structure how work, care, and relationships are sustained across distance. Although digital communication provides everyday presence and coordination across borders, embodied co-presence remains crucial for renewing relational depth, trust, and professional rapport. Moments of crisis, life course transitions, and ageing relatives further expose the fragility of digitally sustained ties. We argue that digital anchors function not as substitutes for proximity but as dynamic relational infrastructures that make academic mobility liveable, while simultaneously generating new forms of relational work, ambivalence, and vulnerability within transnational academic careers. Importantly, the digital anchors are maintained through ongoing techno-emotional labour. The contribution of the article is in advancing the concept of digital anchors as a way of understanding how stability is enacted under conditions of academic precarity and mobility.

## Keywords

academic mobility; digital anchors; early-career researchers; Latvia; precarity; transnational care

## 1. Introduction

This article explores how Latvian doctoral students and postdoctoral researchers in the UK navigate the complexities of maintaining and reshaping social and personal ties in an increasingly digital world and precarious academic labour market. Boundaryless career theory (Arthur, 2014; Arthur & Rousseau, 1996) frames academic trajectories as flexible and self-directed, shaped by transnational mobility. The concept of protean careers (Briscoe & Hall, 2006; Hall, 1996) and Wellman's (2001) notion of "networked individualism" highlight the shift toward individualised, digitally mediated social networks. These theoretical advancements suggest the importance of personal meaning and relationships as well as autonomy in analysing human movements. In this article, we focus on more personal and intimate relationships (Leurs & Ponzanesi, 2024) situated in a broader transnational and mobile academic career context. We also draw on Digital Diaspora Theory (Candidatu & Ponzanesi, 2022; Nedelcu, 2018) to explore the evolving nature of diaspora in the digital age and focus on how digital engagement sustains transnational personal and professional relationships of caring and intimacy among Latvian early-career academics abroad.

Transnational mobility has become an imperative for early-career researchers (ECRs), shaping academic legitimacy within global knowledge economies. Yet this mobility imperative frequently places care relationships under threat, as geographic dislocation disrupts the emotional and practical bonds essential for wellbeing and career support (Gorman-Murray & Bissell, 2018; Ivancheva et al., 2019; Puzo & Lulle, 2025). The professional trajectories and personal lives intertwine when ECRs engage in relational mooring—the ongoing, multi-sited work of sustaining social connectivity and continuity across borders (Moon, 1995; Zechner, 2019). In this article, drawing on the new mobilities paradigm (NMP; Sheller, 2014; Sheller & Urry, 2006, 2016) and the concept of mooring (Moon, 1995), we introduce the concept of digital anchors. We define digital anchors as socio-technical infrastructures that provide points of stability, orientation, or continuity under conditions of mobility, uncertainty, or spatial dislocation. Digital anchors are not reducible to individual platforms, devices, media choices, or communicative practices. Rather, they function as relational infrastructures across spatial separation by stabilising rhythms of interaction and enabling relationships, routines, care, and intimacies to persist across spatial distance. Anchors function not to immobilise but to make movement liveable and intelligible by enabling continuity, relational maintenance, and temporal coordination. Drawing on qualitative interviews, the study examines if and how digital anchors produce relational moorings for transnationally mobile ECRs, and contributes to our understanding of how digital infrastructures mediate transnational academic careers, reshaping distance, continuity, and care in a mobile digital age.

## 2. Boundaryless Careers, Affective Relations, and Academic Precarity

Boundaryless career theory posits trajectories decoupled from single organisations, emphasising cross-institutional moves, networked capital, and self-managed progression (Arthur, 2014; Arthur & Rousseau, 1996). In contemporary academia, this translates into international postdoctoral stints, serial contracts, and multilocal dwelling as scholars pursue mobility to accumulate "international capital" (Gorman-Murray & Bissell, 2018; Wakefield & Dismore, 2015). The NMP offers an analytical angle to exploring these continuous moves by foregrounding how mobility creates and depends on infrastructures that relationally shape the movement and its consequences (Adey, 2006; Sheller & Urry, 2016). Courtois and O'Keefe (2024) document how Irish academia valorises outbound mobility while externalising emotional and

logistical costs, producing precarious trajectories where ECRs must “go away and make a big thing” to gain recognition. Manzi et al. (2019) similarly show how neoliberal academic cultures exhort mobility—“enough wandering around!”—while masking the intimate calculations and sacrifices entailed. The mobility imperative intersects and clashes with the imperative to care that, while affecting academic women in particular (Ivancheva et al., 2019), shapes the (im)mobility decisions and career trajectories of both men and women scholars in multidimensional ways (Bataille et al., 2017; Schaer, 2021). ECRs orchestrate care at a distance and negotiate affective attachments to places, people, and communities under the temporal pressures of grants and short contracts, while managing time-space complexities and constructing and maintaining relationships that travel through routines (Gorman-Murray & Bissell, 2018; Schittenhelm, 2022).

## **2.1. Mobility and Relational Moorings**

The NMP reframes mobility as a complex assemblage, a socio-technical process involving bodies, objects, affects, infrastructures, and representations (Sheller, 2014; Sheller & Urry, 2016). Rather than treating mobility as a derivative of migration or transport, the NMP interrogates the co-mobilisation of people and things, the rhythms and frictions of movement, and the embedded moorings (Hanam et al., 2006). Mobility is never frictionless; it depends on moorings—the stabilising structures, routines, and attachments that enable movement and make it meaningful (Hanam et al., 2006; Moon, 1995). Rather than treating moorings as static places, recent scholarship advances a relational perspective, emphasising that moorings are processual, multi-sited, and affective, enacted through ongoing social and material relations (Adey, 2006; Zechner, 2019). Moorings thus become relational infrastructures, co-produced through rhythms, narratives, and socio-technical mediations (Botterill, 2018; Gorman-Murray & Bissell, 2018). This relational turn foregrounds continuity-making practices during mobility, and this is what we focus on in our article. We consider how Latvian ECRs sustain relationships, belonging, and care across spatial and temporal (dis)locations and how their professional trajectories and personal lives intertwine.

Within the NMP, moorings are not antithetical to mobility; they are part of the same relational assemblage—the “fixities” (homes, servers, infrastructures, institutions) and anchoring practices (messaging, caregiving, supervision, collaboration) that enable mobile trajectories. Building on this, relational mooring shifts emphasis from fixed sites or infrastructures to the ongoing social, affective, and material relations through which people hold lives together across space and time. Zechner (2019) illustrates this relational orientation by showing how older adults narrate mobility through care relations, intimacies, and intergenerational ties—not only physical places or transport systems. Adey (2006) similarly argues that if mobility is conceived as universal, it risks emptiness; instead, a relational politics of (im)mobility foregrounds how mobility is constituted through uneven power relations, affective attachments, and situated practices (see also Salazar, 2022). “Relational moorings” (Hanam et al., 2006; Moon, 1995) capture the affective ties and social infrastructures that stabilise mobile lives and anchor the decision-making of staying or moving. Relational moorings are processual and ongoing; they are made and maintained through everyday routines, communications, and obligations, rather than being given once and for all (Adey, 2006; Moon, 1995; Zechner, 2019).

Boccagni (2012) emphasises the transnationalism of everyday life—the mundane routines through which migrants sustain ties, responsibilities, and belonging—a fitting lens for ECRs whose care relations (partners, children, ageing parents) shape mobility choices and thresholds for relocation. Studies of transnational care

reveal ambivalent intimacies that both sustain and strain relationships over distance (Cabalquinto & Hu, 2023; Humbracht et al., 2023). For ECRs, relational moorings in addition to more personal ties include professional ones as well: mentors, peer communities, and disciplinary networks whose support (references, collaborations, moral backing) can make mobility viable, while their absence intensifies vulnerability. These moorings are not simply place-bound; scholars frequently “dwell-in-motion,” assembling portable routines and relational supports that travel and stretch across time zones (Gorman-Murray & Bissell, 2018). Thus, we examine how moorings are enacted through digital anchors: How the work of relational mooring is happening, what digital tools, platforms, and infrastructures may make mooring possible, and how it is achieved, if at all, by Latvian ECRs in the UK.

## ***2.2. Digital Anchors: Mediating Relational Moorings in Academic Mobility***

For early-career researchers, whose trajectories are increasingly shaped by internationalised CV-building, short-term contracts, and multi-sited collaborations, relational moorings are crucial to making boundary-spanning academic work liveable amid intensifying precarity (Courtois & O’Keefe, 2024). Synthesising scholarship on mobilities, transnational intimacy, and digital migration studies, we introduce the concept of digital anchors. And we ask if and how the ECRs’ digital anchors may operate as core relational moorings that enable care, collaboration, and affect-in-motion (Adey, 2006; Dixon, 2019) to sustain continuity of relationships across spatial (dis)placements.

Digital anchors as infrastructures encompass portable devices (smartphones, laptops) and platform ecologies (messaging apps, video conferencing tools, networking sites) that mediate both professional and personal life in conditions of precarious mobility. However, these anchors are not merely technical tools; they are socio-material assemblages comprising devices, platforms, and communicative practices that are strategically orchestrated as polymedia practices (Madianou & Miller, 2013; Patterson & Leurs, 2020) to manage intimacy, care, collaboration, and conflict. At the same time, digital anchors are not reducible to polymedia practices even though they are enacted through them. Digital anchors emphasise the infrastructural dependence that emerges when digitally mediated relational mooring becomes essential rather than optional. The concept of digital anchors demonstrates how routinised polymedia practices acquire a stabilising function to compensate for the absence of sustained co-presence and structural instability. Stabilising digital anchors allows ECRs to maintain ties with family, partners, and professional peers while navigating multilocal dwelling and serial relocations (Gorman-Murray & Bissell, 2018).

Digital anchors can serve dual roles. First, they sustain relational moorings by enabling transnational care routines—bedtime stories via video calls, shared meals through screens, and continuous messaging that simulates co-presence (Alinejad, 2021; Alinejad & Ponzanesi, 2021; Cabalquinto & Hu, 2023). Dixon’s (2019) concept of “affective mooring” underscores the emotional dimension of these anchors: The smartphone, for instance, becomes a portable locus of security and belonging, mitigating disorientation while amplifying expectations of perpetual availability. Second, they underpin professional continuity, facilitating collaborative research, virtual conferences, and networking across borders (Wakefield & Dismore, 2015). Digital migration studies highlight that platforms are socio-technical environments where diasporic and professional communities are imagined, maintained, and contested (Leurs & Ponzanesi, 2024). Digital diasporas offer connective infrastructures for solidarity and knowledge exchange, while “staying with the trouble” of platform governance—moderation, algorithmic visibility, and datafication (Candidatu & Ponzanesi,

2022; Nedelcu, 2018). These practices are vital for ECRs whose career progression depends on maintaining visibility and productivity despite geographic fragmentation. Wellman's (2001) notion of "networked individualism" reframes these dynamics: Rather than relying on bounded communities, scholars curate personalised, digitally mediated networks that operate as portable moorings.

### **2.3. Affective and Temporal Dimensions**

The anchoring function of digital technologies is deeply affective and temporal. Platforms compress distance and accelerate rhythms of communication, enabling "real-time" intimacy but also intensifying the pace of academic and personal life (Patterson & Leurs, 2020). This creates techno-emotional labour—the work of managing presence, responsiveness, and visibility across multiple channels (Alinejad, 2021). For ECRs, such labour intersects with professional precarity: The imperative to remain digitally present for collaborators and employers compounds the emotional weight of sustaining care relations at a distance. Dixon (2019) argues that these anchors offer stability yet tether individuals to devices, producing ambivalent dependencies. For ECRs, this means that digital anchoring involves affective negotiation in addition to techno-emotional labour. Therefore, digital anchors are integral to the lived experience of academic mobility. They enable ECRs to navigate precarious trajectories by maintaining relational and professional continuity, yet they also entangle scholars in regimes of constant connectivity and emotional labour. In our study, we explore these dynamics. We question if and how ECRs' digital anchoring may create relational mooring to ensure that life, care, and love remain connected across institutional demands (Manzi et al., 2019; Puzo & Lulle, 2025) and locations.

## **3. Methodological Approach**

This study adopts a life history approach (Elder, 1994) to explore how early-career researchers from Latvia navigate academic mobility, relational moorings, and digital anchoring practices during their doctoral and postdoctoral trajectories in the UK. The life history method is particularly suited to this inquiry because it foregrounds temporality, subjectivity, and relational complexity, enabling the capture of biographical narratives that reveal how mobility decisions intersect with care obligations, institutional expectations, and digital practices over time. We used a combination of timelines and qualitative interviews that allowed, while relying on the importance of chronological event data, to explore the sense-making of individuals of their own trajectories and the affective relationship between events and people involved (Lalanda Nico, 2016). It also allowed us to explore the role of digital anchors in the creation of relational moorings for liveable lives. This approach aligns with the epistemological commitments of the NMP, which emphasises the relational and infrastructural dimensions of mobility. While we considered contextualising the findings with macro-level datasets (e.g., Eurostat or OECD), no existing datasets capture the specific techno-emotional and relational dimensions we aimed to examine, and the study is not positioned at a stage that would support quantitative triangulation. Instead, the value of the analysis lies in its fine-grained engagement with biographical narratives, which bring into focus processes that remain largely invisible in large-scale mobility statistics.

A purposive sampling strategy was employed to recruit 10 Latvian ECRs who were based in the UK during their doctoral studies or postdoctoral appointments. This group was selected for its relevance to the research focus: Latvian scholars represent a smaller EU academic community navigating mobility within the



context of a fragmented and uncertain academic employment landscape in Latvia (Puzo, 2023), Brexit-related uncertainties, and globalised higher education and research. Participants were identified through academic networks, diaspora associations, and snowball sampling. Inclusion criteria required participants to have completed or undertaken doctoral/postdoctoral work in the UK within the last 5 years, ensuring temporal proximity to current mobility regimes and digital practices. The aim of this study was not to generalise from a small purposively selected sample, but to explore in depth how individuals experience and make sense of mobility across their personal and professional life trajectories and how the concept of digital anchors could be applied as a way of understanding enactments of stability under conditions of academic precarity.

Data were collected through in-depth life history interviews, lasting between 90 and 120 minutes. Participants were asked to draw their academic career timeline (Adriansen, 2012) with key people, events, and turning points (Elder, 1994) that were then discussed during the interview. Interviews were conducted via secure video conferencing platforms (Zoom or MS Teams), reflecting participants' dispersed locations and the study's interest in digital mediation.

Interviews were semi-structured but narrative-driven, inviting participants to recount their academic trajectories, mobility decisions, and experiences of sustaining relationships and professional networks. Prompts explored were: mobility pathways (doctoral/postdoctoral moves, institutional transitions); relational moorings (family, partnerships, friendships, mentoring); and digital anchors (use of platforms, devices, and polymedia practices for care and collaboration).

Ethical approval was obtained from the Research Ethics Committee of Riga Stradins University. Participants received detailed information sheets and consent forms outlining the study's aims, confidentiality measures, and their right to withdraw at any time. Pseudonyms are used throughout the article and some details were changed or taken out to protect the anonymity of the participants. Given the sensitivity of discussing precarious employment and personal relationships, interviews were conducted with care, allowing participants to skip questions and pause as needed. Data were stored securely in encrypted formats, in compliance with the GDPR.

Interviews were transcribed verbatim and analysed using thematic narrative analysis, combining inductive coding with sensitizing concepts from the NMP (e.g., moorings, [im]mobility, affective labour) and digital migration studies (e.g., polymedia, digital anchors). Analysis for this article focused on relational mapping of moorings and digital anchors across trajectories to examine patterns of digital mediation, care strategies, and structural constraints. This design enables a nuanced understanding of how Latvian ECRs negotiate academic mobility through relational and digital infrastructures, offering empirical depth to theoretical debates on mobility and digital intimacy.

## **4. Digital Anchors for Relational Moorings: Shaping Distance and Social Continuity**

### **4.1. Care Regimes With Digital Anchors**

Latvian early-career researchers in the UK actively curate relational moorings by combining everyday digital care with episodic co-presence in ways that stabilise intimacy amid mobility (Hanam et al., 2006; Moon,



1995). For example, Markus's relational moorings across borders are maintained through digital communication and episodic, but routinely sustained, co-presence together, which nurture ties with family and friends. His routines of return—"on average I go once in summer and again for Christmas and New Year"—demonstrate the role of cyclical mobility in anchoring familial bonds (Boccagni, 2012; Zechner, 2019) and were reflected in the narratives of other research participants. Digital communication provides continuity in between visits, offering affective reassurance and everyday presence: "Of course, there is some virtual contact, messaging, and calling." It demonstrates how techno-emotional mediation is practised in transnational care routines (Alinejad, 2021; Cabalquinto & Hu, 2023; Hillyer, 2021).

Similarly, for Larna, her relations with her mother and sister are anchored through continuous digital attentiveness. As she put it, "we write every day on WhatsApp, send pictures, send messages...and we also have video calls," showing how the pragmatic orchestration of polymedia across platforms (see also Madianou & Miller, 2013; Wellman, 2001) works for relational mooring. Yet she frames digital media as a logistical bridge rather than a substitute for co-presence, if and when possible: "We use electronic communication to arrange when we'll meet...and then we sit for four hours and talk, and it's great," highlighting the embodied encounters as key mooring events (Cabalquinto & Hu, 2023; Gorman-Murray & Bissell, 2018).

Markus also explained how, among his friends, shared mobility trajectories shape relational closeness through routinely sustained meetings, and friendships are maintained through coordinated visits—"we all try to return to Latvia at the same time"—or through travel to each other's cities—"Paris, London, Copenhagen." Here, mobility itself becomes a relational practice, enabling forms of circulating care and situated intimacy (Elliott & Urry, 2010; Humbracht et al., 2023). However, here again, as in Larna's case, digital communication serves primarily as a coordination tool—"a lot of our messaging is arranging where and how we could meet"—demonstrating that for Markus, digital anchors stabilise the possibility of relational moorings while embodied encounters carry their emotional depth.

Anna's transnational family relationships further demonstrate how digital media structure everyday routines of attentiveness, emotional presence, and the circulation of care across distance (Alinejad, 2021; Cabalquinto & Hu, 2023), forming part of a hybrid care assemblage that combines mediated communication with periodic co-presence. Annual reciprocal visits—"I go home at least once a year...my sister and parents also come at least once a year"—function as relational moorings (Zechner, 2019) that anchor transnational care of everyday life (Boccagni, 2012) in embodied encounters. She describes maintaining regular contact with her parents through "WhatsApp video calls...at least once a week," while with her sister she engages in "more texting," reflecting differentiated patterns of digital care shaped by relational closeness, generational preferences, and life-course positioning. At the same time, Anna distinguishes between the informational and affective affordances of digital contact, noting that online communication is mainly to "keep in touch and find out how things are," whereas in-person visits involve shared embodied activities and a stronger sense of connection—"when we're together, we usually go somewhere, do something active." Such differentiation illustrates the techno-emotional gaps whereby digital media support routine relational maintenance but cannot fully replicate the embodied affective richness of co-presence and doing things together synchronously, not only at the same time, but importantly in the same place (Alinejad & Ponzanesi, 2021; Gorman-Murray & Bissell, 2018).

In his interview, Markus expressed how digital communication feels more transactional: “Calls feel like going through a list of points you need to say.” Such statements reveal the affective limitations of mediated co-presence compared with embodied time together. Similarly to Larna and Anna, he notes that the “couple of weeks spent in Latvia far exceed the time spent talking online,” capturing how co-presence produces intensified relational density and affective renewal that digital interactions cannot replicate (Alinejad & Ponzanesi, 2021; Gorman-Murray & Bissell, 2018). Dace’s personal relationships also reveal how digital anchors support routine contact but cannot replace the affective depth of co-presence. Maintaining ties with family and friends in Latvia required significant coordination due to time zones—“calls had to be planned carefully...when I could talk, it was night in Latvia”—highlighting the material and temporal constraints of transnational care (Alinejad, 2021; Cabalquinto & Hu, 2023). While Skype and WhatsApp enabled ongoing connection, Dace emphasises that long-term relationship maintenance depended on embodied encounters: “Whenever I go to Latvia, I always meet people for coffee....If I go to Latvia and don’t meet them, something feels lost.”

This resonates with all other Latvian ECRs, showing that digital care sustains continuity, but co-presence acts as a key mooring event, anchoring affective ties in ways that digitally mediated communication cannot fully replicate. Ultimately, Latvian ERCs’ patterns of communication and visitation reveal a routine ecology of transnational care, in which digital anchors sustain continuity while periodic in-person encounters reinvigorate affective bonds, ensuring that mobility does not erode relational moorings.

At the same time, not mobilising digital anchors enables low-conflict distancing. As Larna explains: “The contact is minimal...that was largely a decision from my side because we no longer have much in common.” Thus, affective moorings are sustained or unmade through everyday media practices (Candidatu & Ponzanesi, 2022; Dixon, 2019). At the same time, digital minimalism does not mean that relational mooring is not possible. In the same interview, Larna discussed how, with some people, “we don’t really communicate digitally; once a year when I’m in Latvia, we meet...and then again we don’t talk for a year.” This statement illustrates how selective affective engagement sorts relationships in transnational everyday life (Boccagni, 2012; Urry, 2002), suggesting uneven affective charge of mobility infrastructures (Adey, 2006; Sheller & Urry, 2006). Whereas family WhatsApp threads anchor belonging, one may not need the same digital routines to sustain relations with friends or professional networks.

As we can see from the interviews with Latvian ECRs, digital communication offers a bridge, but it cannot fully sustain affective intensity without periodic in-person encounters (Alinejad & Ponzanesi, 2021; Madianou & Miller, 2013). The emotional limits of digital anchors particularly impact relational moorings where more affective labour needs to be invested, such as in the case of non-kin ties. For example, in Dace’s case, family remains a stable mooring, but friendships and social ties require conscious relational labour to keep them alive across borders. Over the years, as she became more settled in the UK, the affective calculus of care shifted: “More and more, my life is here...if I spend too much time on online contacts, it feels like I’m stealing time from relationships here.” Leo, on the other hand, invests in relationships established in the UK during his doctoral program, but that now span different countries around the world, each with their own digital infrastructures. Leo prizes the built friendship as one of the main gains of graduate schools and hopes that he will be able to maintain this relationship throughout his life, even if he has to rely on MS Teams to stay in touch with his friends in a country that prohibits voice and video calls on WhatsApp. This shows how transnational ties evolve as everyday life (Boccagni, 2012) and relational moorings reconfigure around new localities, new digital media, and shifting digital infrastructures.

Dace acknowledges that some friendships become “very irregular” when they remain entirely digital, noting that relationships “change” without embodied renewal. Yet, digital anchors still enable a sense of continuity, as she maintains intermittent contact and reconnects through visits—“if I travel, I visit them, or they visit me.” Laura also continues to stay in touch with her relatives in Latvia and travel there, despite the complicated emotions such visits have started evoking in her over time, especially when she travels with her partner, whom she met in the UK: “When I travel to Latvia with [my partner], those are not trips for fun. It’s such a rush.” While during the first years of her studies in the UK she travelled to Latvia “for every holiday,” she now goes twice a year: “We sort of have a family week when everyone takes time off, and then we all spend time together.” These reflections reveal how care, affect, and relational moorings are dynamically recalibrated over time, shaped by mobility, local embeddedness, and the possibilities for co-presence.

#### **4.2. Digital Affordances for Careers**

Digital technologies have expanded the possibilities for remote work, thereby affording greater flexibility for dual-career couples as they negotiate their professional and educational trajectories. In Larna’s case, the widespread shift to home-based work during the pandemic enabled her partner to maintain his employment while remaining geographically mobile. This flexibility created the conditions in which Larna could accept a promotion that required relocating to a different city—an opportunity that would likely have been inaccessible without the altered spatial requirements of work. Her partner subsequently secured a more desirable position in the new location. Fiona, on the other hand, during the early weeks of the pandemic, moved to the UK city where her partner lived. In her case, the relocation, digital infrastructures, and academic precarity intersected in a specific way. During the first months of lockdown, she continued to do short-term project-based work at the institution where she earned her doctoral degree, but then she “got sick of the three-month contract extensions” and decided to look for a more stable job close to her partner’s location.

In this context, digital technologies operated as digital anchors, supporting the couple’s ability to sustain relational continuity despite spatial relocation. They provided a form of relational mooring that stabilised the partnership during a period of mobility and generated new forms of “network capital” (Elliott & Urry, 2010) that enable individuals and couples to coordinate movement, preserve emotional ties, and maintain intimate relations across space. Larna’s and Fiona’s cases illustrate how migrant early-career researchers may leverage, even if temporarily, such digital infrastructures to navigate the tensions between mobility, career advancement, and intimate relational commitments.

Anna’s account further illustrates how digital affordances play a crucial role in sustaining relational moorings within dual-career academic mobility, enabling couples to remain emotionally and logistically connected despite asynchronous trajectories and geographically staggered relocations. When she moved to the North ahead of her partner, they relied heavily on mediated communication—“we relied a lot on WhatsApp and phone calls”—a practice that reflects the strategic use of polymedia (Madianou & Miller, 2013) to bridge spatial separation during periods of career transition. Digital tools also supported the coordination of co-presence, as Anna frequently travelled back to the South of England and worked remotely. As she put it: “I sometimes travelled back and worked from a place where my partner still lived.” Thus, she leveraged workplace flexibility to maintain the relational rhythm of the partnership. Such practices further exemplify network capital (Elliott & Urry, 2010), where digital anchors and mobility infrastructures combine to sustain

intimate ties and relational moorings. At the same time, Anna and her partner engaged in deliberate relational affective labour to synchronise their careers, with Anna forwarding the partner a job advertisement: “I saw a position...they applied and got the job.” The couple then negotiated who would move when. This aligns with existing research showing how dual-career academics navigate boundaryless mobility regimes by integrating professional opportunities with relational commitments (Arthur, 2014; Courtois & O’Keefe, 2024). Through these digitally mediated practices, Anna maintains relational moorings that are resilient yet flexible, revealing how digital infrastructures act as digital anchors that help couples choreograph mobility without dissolving intimacy (Gorman-Murray & Bissell, 2018; Sheller & Urry, 2006).

#### **4.3. Limits of Digital Anchors in Sustaining Care Relationships**

The digital world is continually evolving, but so too are our lives and relationships, and our moorings also have to adapt. While the aging of parents and other close relatives did not appear as a major theme in the narratives of most of our research participants, it emerged strongly in Magda’s story. In describing how contemporary messaging practices have shifted toward increasingly brief exchanges, Magda reflected that it was not the digital tools that reshaped her conversations, but the changing circumstances of her mother’s ageing. This underscores that relational moorings—the practices, routines, and infrastructures that stabilise intimate ties across distance—are shaped by life-course transitions first and only then by technological affordances (Adey, 2006; Zechner, 2019). As her mother has grown older and less able to process lengthy text-based communication, the form and tempo of mediated communication have had to adjust accordingly. As in many transnational families, communication choices across space and time are negotiated relationally rather than determined by technology alone (Boccagni, 2012; Madianou & Miller, 2013). As Magda put it:

I would write maybe just as much, but now my family situation has changed. I have a very elderly mother, and I can’t really tell her everything anymore. She’s very interested in what I was doing twenty years ago, and back then, I wrote a lot, but now she no longer has the ability to take all that in. So now communication with her is shorter. Videos or, actually, these days, more phone calls through FaceTime, where we deal with practical matters.

Although video calls have enabled the maintenance of an affective connection across distance, their use is shaped by the bodily, cognitive, and emotional demands of ageing, reflecting the “techno-emotional gaps” that characterise digitally mediated care (Alinejad, 2021; Alinejad & Ponzanesi, 2021). In this sense, video calling functions as a digital anchor—a mediating device that helps sustain continuity, routine, and affective presence across physical separation (Cabalquinto & Hu, 2023; Leurs & Ponzanesi, 2024). Yet its anchoring capacity is contingent on the relational needs and abilities of both parties, illustrating that digital anchors only “hold” when they remain accessible, meaningful, and manageable for ageing parents.

The limits of digital connectivity within transnational care relations can also be illustrated by Larna’s story. When Larna’s grandfather passed away, and the responsibility for organising the funeral fell largely on the family members residing in Latvia, tensions emerged between Larna and her sister. Her sister perceived Larna’s position in the United Kingdom as comparatively “easy,” interpreting her geographic distance and relative professional stability as a form of disengagement from the immediate emotional and logistical pressures faced by the family. In the context of transnationalism of everyday life (Boccagni, 2012), geographically uneven distributions of care work often become a source of friction within dispersed families.

While digital communication technologies can facilitate some practical support—coordinating tasks, providing updates, arranging logistics—research consistently shows that such technologies struggle to reproduce affective or embodied dimensions of care where co-presence is essential (Alinejad, 2021; Madianou & Miller, 2013). Moments of bereavement, uncertainty, and crisis often require physical co-presence, which digital devices can only partially approximate, underscoring the “techno-emotional gaps” observed in transnational family life (Alinejad & Ponzanesi, 2021; Cabalquinto & Hu, 2023). This experience constituted a critical turning point for Larna. The tensions with her sister, combined with the recognition of the constraints of digital support, prompted her to question the long-term sustainability of living abroad and to begin considering a return to Latvia.

Similar questions were of importance to Karina as well. Remarking upon the fact that, during the pandemic, she had not met her family in person for a lengthy period of time, Karina said:

A year and a half had passed since I had last seen my family members in person. And then I realised—I noticed this very specific thought—that I had started to perceive them almost like digital avatars. I could no longer connect them with memories of touch or even a person’s smell; it felt as though they had somehow become...digital.

Such moments of crisis—whether personal or, as in the case of the pandemic, global—are significant disruptions that can unsettle established mobility trajectories, revealing the relational fragility underlying ostensibly “boundaryless” careers (Arthur, 2014; Courtois & O’Keefe, 2024). The cases of Magda, Larna, and Karina demonstrate how migrant ERCs actively renegotiate the relational moorings that anchor them across borders (Adey, 2006; Zechner, 2019), particularly when digital anchors prove insufficient for maintaining the emotional intensity and mutuality required during periods of family stress. The data show that while digital anchors can support logistical coordination and provide some emotional connection through ongoing awareness and digitally mediated presence over time, they cannot substitute for embodied and hands-on care or spatial co-presence. Crises become key events that reconfigure the interplay between mobilities and immobilities (Elliott & Urry, 2010; Sheller & Urry, 2006), prompting new assessments of where, with whom, and how to build a life and career.

#### ***4.4. Professional Life and Digital Affordances of Trust***

Our interview data illustrate the hybrid academic networks characteristic of boundaryless careers where mobility, digital infrastructures, and relational labour are interdependent (Arthur & Rousseau, 1996; Wakefield & Dismore, 2015). Our interlocutors’ experiences highlight how ERCs’ professional networks and collaborations, and not only their personal relational moorings, are shaped through a mix of digital infrastructures and episodic co-presence, illustrating the hybrid relationality characteristic of contemporary academic mobility (Arthur, 2014; Sheller & Urry, 2006). Our data demonstrates that embodied co-presence also plays an important role in professional relationships, particularly for the development and reinforcement of trust, even where digital anchors support everyday coordination and continuity.

Markus’ training included six months of in-person coursework in the Northern part of the UK, which he described as crucial for relationship-building: “That created contacts outside my own university.” This underscores how embodied co-presence continues to serve as a key relational mooring in academic fields,

supporting trust formation and collegial familiarity (Gorman-Murray & Bissell, 2018; Patterson & Leurs, 2020). Yet after this initial immersion, most collaborative work shifted online: “Of course, communication happens through Teams or Zoom.” Such statements reveal how digital platforms function as digital anchors for sustaining professional ties across institutions once initial rapport is established (Leurs & Ponzanesi, 2024; Madianou & Miller, 2013). Markus noted clear differences between those he has met only digitally and those known first in person: “People I’ve only met digitally don’t feel three-dimensional...our conversations stay focused on the project,” signalling the limited affective bandwidth of digital-only ties and “techno-emotional gaps” (Alinejad, 2021). Nonetheless, he also emphasised that once embodied familiarity is established, digital communication “isn’t very different,” suggesting that digital affordances can successfully carry professional relationships forward when grounded in earlier co-presence.

Similar sentiments were echoed by Leo: “If you’ve seen the person, you kind of feel like you know them better; if you haven’t met them [in person], you feel like you don’t know them at all—it’s just sort of like a film.” In the interview, Leo emphasised several times that, with every new connection, he would try to invite the person for a coffee, “just for five, ten minutes or so,” because “it’s very important that there is that meeting—an in-person meeting—when a person, as they say, shakes your hand and shows who they are.” For digital infrastructures—through further online meetings and collaborations—to serve the digital anchor function in enabling professional connection, the in-person connection, then, is crucial.

On the other hand, Dace’s professional and civic engagements demonstrate how shared purpose functions as a powerful digital anchor, enabling trust and cohesion even in predominantly online networks. Her involvement in a civic activity-based association in Latvia began entirely online: “I first joined not-in-person...they were looking for volunteers, and they added me to the Facebook group where we discussed everything.” This illustrates how digital platforms can successfully initiate and stabilise collective action when underpinned by a common goal, showing how digital anchors can strengthen relational moorings when participants collaborate on shared tasks, building what Alinejad (2021) calls techno-emotional scaffolding, and what Madianou and Miller (2013) describe as polymedia environments oriented toward relational work. Dace then explained how, through daily interactions, “we communicated almost daily on Facebook” and “when I was on the board, we talked every day.” She formed affectively meaningful ties despite geographical distance, reflecting how relational moorings in transnational civic communities are produced through sustained, purposeful collaboration (Alinejad & Ponzanesi, 2021; Boccagni, 2012) with the support of digital anchors.

Crucially, trust was not pre-existing but emergent and interactionally produced, as Dace explained, “because our communication was very regular and we had shared goals, so it worked very well.” This supports Patterson and Leurs’ (2020) and Dixon’s (2019) insights that trust in digital spaces depends on ongoing participation, shared labour, and repeated exchanges. This links with other transnational, but familial relational moorings and care practices discussed before: Magda’s experience of sustaining relationships with her elderly mother and Larna’s affective participation in her family life during bereavement, in both cases demonstrating how digital infrastructures stabilise and yet are incomplete anchors of everyday life and need to be supplemented and grounded in embodied and ongoing affective practices.

Dace later in her interview articulated the limits of digital anchoring where relational moorings lack a purposeful centre, further demonstrating that digital intimacy and solidarity require work, coordination, and



shared stakes (Cabalquinto & Hu, 2023). For Dace, the absence of a shared project made digital anchoring difficult in academic relationships in Latvia: “With academic contacts in Latvia, I never had a common goal...those connections stayed social and not very strong online.” Thus, Dace’s professional story illustrates that digital networks flourish not through technology alone but through the relational labour of shared purpose, which produces trust, cohesion, and durable transnational moorings.

The limitation of digital anchors on their own in creating trustworthy relations appeared in other participants’ professional stories as well. Having been asked if she had any strong professional connections with people she had not met in person, Karina stated emphatically that she did not. Referring to negative and even traumatic professional interactions in the past, she said:

Because sometimes I feel like I’m kind of...extra attentive, you know. And I try to sort of read or calculate a person—to understand who they are. But digitally, there are nuances you just don’t see—like body language, for example. And maybe I don’t always trust my instincts, or even the right people, given that I still end up in unpleasant situations despite past experiences. Some part of me still feels like I need to try to understand what’s going on. And that’s something you simply can’t fully replace with telecommunication.

Karina’s reflection on embodied co-presence (face-to-face) with mediated co-presence (recorded online) highlights how trust is emergent, contingent, and interactionally produced rather than guaranteed—a point well established in mobilities and intimacy scholarship (Sheller, 2014; Urry, 2002). In hybrid or online-only encounters, the early, low-stakes exchanges that typically facilitate disclosure and establish rapport are compressed or absent, aligning with research showing that digital environments often demand intensified relational labour to build and maintain interpersonal trust (Dixon, 2019; Patterson & Leurs, 2020). Digital intimacy must therefore be explicitly scaffolded, as the micro-temporalities of warmth, humour, and shared presence are less easily co-constructed when communication is mediated (Alinejad, 2021; Madianou & Miller, 2013). Moreover, many affective and embodied micro-cues, such as reciprocal eye-contact calibration, posture shifts, subtle turn-taking, or synchronous laughter, are harder to perceive or reproduce on screen. These limitations mirror findings in work on transnational digital care, which emphasise the “techno-emotional gaps” that arise when digital tools struggle to transmit embodied affect (Alinejad & Ponzanesi, 2021; Cabalquinto & Hu, 2023). Ultimately, Karina’s experience reinforces the relational insight that trust is not merely transported through media technologies but is continually co-constructed through situated, embodied interaction; something that digital mediation can enable, but rarely without additional effort (Adey, 2006).

## 5. Conclusion

Empirically, this study contributes fine-grained biographical accounts that capture how relational mooring and digital anchoring are lived, negotiated, and emotionally managed in everyday practice. As mobility scholars emphasise, mobile lives are continually renegotiated around changing relational obligations and vulnerabilities (Sheller & Urry, 2006; Urry, 2002). Within professional and personal relational moorings (Hanam et al., 2006; Moon, 1995), digital communication becomes part of the temporal and affective organisation of everyday life. As technologies and relations evolve, digital anchors acquire infrastructural significance under conditions of uncertainty and distance rather than functioning as merely discretionary tools of connection.



For early career researchers navigating boundaryless and protean career conditions, mobility is both a resource and a demand. Their curated practices of anchoring and mooring—across borders, platforms, and relationships—constitute deliberate relational labour to sustain significant personal and professional ties (Arthur & Rousseau, 1996; Briscoe & Hall, 2006; Courtois & O’Keefe, 2024; Hou et al., 2021; Puzo & Lulle, 2025). Digital infrastructures allow for an ongoing awareness of others’ lives across distance (Elliott & Urry, 2010; Leurs & Ponzanesi, 2024), yet they stabilise relationships only when they resonate affectively and are supplemented by moments of co-presence. In this sense, digital anchors function less as optional communicative choices than as background conditions that enable relational continuity reconfiguring distance through proximate presence and asynchronous intimacy (Gorman-Murray & Bissell, 2018; Sheller, 2014). Rather than mirroring polymedia choice alone, these anchors emerge when routinised and emotionally charged digital practices become essential for maintaining relational moorings. They sustain narratives of continuity but also introduce ambivalences: heightened emotional labour, blurred boundaries, and new vulnerabilities. Digital anchors as infrastructures thus simultaneously enable and constrain as they facilitate relational moorings and afford care as well as trust while exposing the boundaries of digital mediation beyond an interim stabilising function.

The key site where the interim nature of digital anchors becomes visible is care, especially for ageing relatives or young children, which is one of the main relational mooring dimensions and remains only partially digitisable. Although digital tools support “doing things together” and maintaining routine forms of contact that allow logistical coordination and emotional reassurance at a distance, hands-on forms of care, such as physical assistance, accompanying someone to medical appointments, or providing everyday practical support, require embodied presence and cannot be mediated digitally. Therefore, any digital anchors operate largely as provisional maintenance rather than substitutes for embodied co-presence (Alinejad, 2021; Hillyer, 2021). As we could see in the narrative of Latvian ECRs in the UK, care-related disruptions, such as illness, dependency, or sudden changes in need, often unsettle established relational moorings in ways that digital anchors cannot adequately absorb or stabilise. These techno-emotional practices and disruptions highlight that digital anchors need to be grounded in ongoing circuits of intimacy, obligation, and care (Cabalquinto & Hu, 2023; Madianou & Miller, 2013). Furthermore, precisely because digital anchors require periodic re-stabilising, ritualised mobility—such as annual visits to Latvia—continues to renew relational depth in ways that everyday digitally-based communication cannot, revealing the limits of digital anchors as care and affective infrastructures.

Across multiple locales, digital anchors fulfil an interim function: effective for sustaining ties yet insufficient as long-term moorings (Urry, 2002; Zechner, 2019). This aligns with mobilities scholarship, underscoring the interplay of mobility, (im)mobility, and the socio-material infrastructures that shape relational life (Adey, 2006; Sheller & Urry, 2006). Digital anchors may compress time and intensify immediacy, but they do not fundamentally alter relational norms; instead, digital anchors are enacted in familiar repertoires of maintaining closeness with enduring expectations of presence and care.

Ultimately, these patterns echo wider research on multilocal dwelling and academic mobility: Despite heightened global connectivity, embodied attachments and life course temporalities persist. Contemporary digital infrastructures operate as stabilising yet incomplete anchors of everyday life that need to be further grounded in enduring human, affective, and embodied forms of relational mooring, particularly where professional and personal lives intertwine.

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## Conflict of Interests

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## Data Availability

Data supporting the findings of this study are available from the authors upon reasonable request, in order to protect the anonymity of research participants.

## LLMs Disclosure

Microsoft Copilot was used during the initial stages for brainstorming and outlining, as well as refining the structure of the abstract and conclusion. ChatGPT was employed for English-language translation of selected quotations. All analytical interpretations, argumentation, and final editorial decisions are the authors’ own.

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## About the Authors



**Olga Cara** is an associate professor in sociology of education at UCL. She uses mixed and quantitative methods to study ethnicity, language, belonging, identities, and relationships across the life course in mobile populations. She has 20+ years of experience working in the UK and Baltic contexts.



**Ieva Puzo** is a lead researcher in social anthropology at the Faculty of Social Sciences, Riga Stradins University, Latvia. Her research interests lie at the intersection of science and technology studies, mobility, and labour.

# “Parenting by Proxy”: Digital Intimacy in Chinese Families With Children in UK Boarding Schools

Andrea Szinay-Kis 

Department of Social Anthropology, University of Sussex, UK

**Correspondence:** Andrea Szinay-Kis ([ak853@sussex.ac.uk](mailto:ak853@sussex.ac.uk))

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## Abstract

This article examines how digital technologies mediate social ties and transnational family relationships within contemporary Chinese elite education migration. It focuses on families who send children, often from the age of 11, to prestigious British boarding schools, while the parents remain in China. For many families, overseas schooling is a long-term project oriented toward mobility, security, and social distinction. Yet physical separation introduces new emotional strains and asymmetries of dependence. Through WeChat calls, digital homework platforms, shared academic monitoring, and regular visits, parents sustain what I term “parenting by proxy”: a form of digitally mediated intimacy that combines affection, anxiety, and oversight. Digital infrastructures embed parents in their children’s daily routines, enabling them to monitor academic progress, advise on friendships, and guide everyday decisions despite geographic distance. Within the boarding school environment, but through a globally connected network of actors, who act as intermediaries, translating parental expectations into institutional norms of independence and self-management. The school becomes a site in which autonomy is cultivated but remains digitally permeable to familial authority. Rather than weakening kinship, distance redistributes care across screens, platforms, and proxy actors. Drawing on ethnographic research conducted between 2021 and 2023 among families, students, private tutors, and guardians, the article introduces the analytical concept of “parenting by proxy” to capture this migration experience and the reconfiguration of family connections amid long-term separation. I examine how digital mediation reconfigures parental responsibility. I argue that distance and outsourced care are managed through digital communication, institutional discipline, and kinship expectations, reshaping parental care and authority across space. Transnational family life, therefore, is constituted not by absence but by mediated presence as intimacy, obligation, and authority are continuously renegotiated across borders.

## Keywords

China; digital intimacy; elite education migration; kinship; transnational family life

## 1. Born “Elite,” Digital, and Transnational

It is 10 pm in Beijing as I close my laptop after finishing an online lesson with Elsa. We started these tutoring sessions two years ago and she has barely missed a class. Ten years old, she appears on my screen each week from her bedroom in northern China, her English workbooks neatly arranged beside her tablet. Behind her, shelves stacked with exam-preparation textbooks frame the scene. There is also a camera on the wall behind her that is monitored by her parents from the living room, to check whether she is listening to the class. She suppresses a yawn but insists that she is “not tired.” Next year, she will leave for a boarding school in England. “I want to get into my dream school,” she tells me with cautious confidence, echoing the language of the Shanghai-based education agency coordinating her application.

Her parents sometimes appear on the motion-tracking iPad screen, and I sense their constant presence. After each lesson, they request detailed progress reports aligned with the entrance examinations, interview performance, and school expectations. How hard-working and creative does she appear? How advanced are her reading and critical thinking skills? Which abilities are most valued at her future school? These repeated inquiries are not merely informational; they constitute a form of affective labour through which care, anxiety, and aspiration are continuously performed and managed.

Like many children in similar elite education-migration trajectories, Elsa is positioned as “born elite” based on parental decisions about international-track education, leading to prestigious independent boarding schools in the UK, made even before her birth. These processes highlight how, years before Elsa physically leaves China, her migration is already digitally and globally organised. Her mother participates in multiple WeChat parent groups dedicated to British boarding school admissions, in which families exchange screenshots of acceptance letters, discuss guardianship arrangements, and compare their children’s trajectories. Through these platforms, separation is anticipated, monitored, and morally negotiated long before it occurs. Although Elsa is still based in China, her life is already oriented elsewhere. Migration, in this sense, begins digitally.

As I observed, similar questions will be asked after Elsa arrives at her new school in the UK. Parents will continue to inquire about her progress, not only asking Elsa herself, but also her teachers, housemistress, private tutors, and education consultants in China who mediate between the school and the family. Digital communication enables a continuous circulation of updates, evaluations, and reassurance, transforming distance into a space of intensified monitoring and sustained affective engagement.

This article examines how digital technologies mediate transnational social ties and reconfigure forms of connectedness within Chinese elite education migration. The central tension for these families lies in how digital mediation reconfigures parental responsibility: How can children cultivate independence while remaining within moral guidance? What does it mean to be a “transnational child” in a family when care is fractured across space, yet continuously enacted through digital platforms? I contend that transnational family life is defined not by absence, but by mediated presence as intimacy, obligation, and authority are continually renegotiated across borders. Drawing primarily on multi-sited ethnographic research conducted both online and in person between 2021 and 2023 as part of my doctoral project, I focus on children sent at the age of 11 to independent boarding schools in the UK while their parents remain in China. In addition, since first moving to Shanghai in 2010, I have observed the educational migration trajectories of hundreds of urban middle- and upper-middle-class students. I therefore draw on long-term participant observation



conducted in Shanghai (2010–2019) and online (2019–present), including research at an elite educational consultancy, where I worked as a tutor. The consultancy served as a key site for observing how educational migration, elite aspirations, and transnational family practices are organised through private educational infrastructures and digital communication.

Contributing to scholarship on mobilities and digitally mediated social ties, this article argues that elite education migration produces not a weakening but a reconfiguration of kinship authority. Rather than functioning as a neutral bridge across borders, digital connection operates as a relational technology that reshapes autonomy, dependence, and belonging. Although spatially dispersed, transnational family life remains infrastructurally embedded, governed through digital dynamics that recalibrate proximity and obligation.

By tracing how asymmetrical relationships are sustained and negotiated across distance, I show that elite education migration is maintained through “parenting by proxy” and “transnational neo-familism”: intertwined processes that transform distance into a site of intensified care, surveillance, and moral negotiation. Situating these dynamics within broader debates on digital mediation and mobility, this article demonstrates how technological infrastructures reconfigure kinship, obligation, and belonging in transnational family life.

My article contributes to ongoing debates on the rising digitalisation of transnationalism. In China’s platform-saturated social worlds, the nation-state remains a significant regulatory and symbolic framework; however, cross-border family life is increasingly structured through digital infrastructures of connection, governance, and emotional management. I show how intimacy, authority, and aspiration are reorganised through platform regimes that operate alongside, across, and sometimes beyond national boundaries. Attending to these dynamics suggests that contemporary transnational family life is not only spatially dispersed but also infrastructurally embedded, as digital architectures reconfigure proximity, obligation, and belonging.

The research combines participant observation, informal conversations, and semi-structured interviews with educational consultants, school leaders, and former GoAp staff in both China and the UK. The core ethnographic material, however, derives from long-term relationships with four affluent Shanghai-based families whom I initially met through tutoring and consultancy work between 2012 and 2015. Over time, our interactions extended beyond formal educational settings into homes, restaurants, playgrounds, and family gatherings, enabling insight into everyday family life and parenting practices.

The participating families were entrepreneurial upper-middle-class households pursuing elite overseas education for their children, primarily in the UK. As I was not a member of closed, invitation-only WeChat parent groups, I draw instead on observations from public WeChat posts (“Moments”), my participants’ accounts of their digital communication practices, and existing academic research. This includes the widely circulated 2017 WeChat post, “A monthly salary of 30,000 yuan is not enough for my child’s summer vacation,” which contemporary China researcher Ponzini (2020) discusses in relation to families’ investment in elite education. I also engage with P. Wang et al. (2024) on parents navigating educational anxiety through WeChat groups, and with Beck’s (2022) analysis of “how WeChat simultaneously serves to perpetuate anxiety while also providing mothers with a platform to conceive counternarratives” (p. 191) within the



Chinese diaspora. Together, these sources illuminate how care, authority, and intimacy are maintained and negotiated across borders through mediated forms of transnational parenting.

By exploring how transnational kinship, digital communication, and institutional structures interact to shape care, control, and belonging across distance, I conceptualise these arrangements as “parenting by proxy,” a digitally mediated configuration of transnational family life sustained across distance through technological infrastructures and intermediary actors. Among the many indicators of this form of parenting in social practice, four are particularly central to the concept of “parenting by proxy”: (a) the delegation of parental authority to tutors, guardians, consultants, and school staff; (b) continuous digital monitoring through WeChat, school apps, dashboards, and messaging platforms; (c) the maintenance of affective intimacy despite physical separation through routines of mediated co-presence and constant communication; and (d) the reproduction of elite aspirations through classed digital and educational infrastructures that only affluent families can sustain. Together, these indicators show how parental care, authority, and emotional presence are redistributed across technological platforms and intermediary actors rather than diminished by distance.

The lens of “parenting by proxy” helps capture a contemporary condition of transnational family life characterised by hyperconnectivity, ambient monitoring, platform-mediated intimacy, and outsourced emotional labour among globally mobile elites. This aligns with, and drives the mechanisms of, what I refer to as “transnational neo-familism,” in which parenting becomes a moral project sustained collectively across borders by parents, grandparents, siblings, and intermediary actors. Children are “parachuted” (Ong, 1999; Zhou, 1998) into the UK from the age of 11, yet remain continuously embedded within family life through smart technologies and mediated forms of supervision. In this configuration, children are simultaneously cherished and burdened: protected through constant monitoring, while also being tasked with carrying familial aspirations. Through digital communication, parents remain deeply involved in their children’s daily routines despite geographical distance, producing forms of connection that sustain both intimacy and surveillance.

Recent literature on transnationalism has examined different forms of “being together while being separated.” While Dalakoglou’s (2010) notion of “proxy presence” helps explain how migrants maintain a symbolic and social presence in their home communities despite physical absence, my case differs in significant ways. In the context of my research, parental presence is not delegated to material objects (such as houses purchased while living abroad) but continuously reproduced through digital communication, educational infrastructures, and everyday practices of monitoring and care.

Suárez-Orozco et al.’s (2002) work on immigrant family separation and reunification is particularly important for understanding the emotional consequences of migration-related separation. However, their framework does not fully capture the digitally mediated and institutionally distributed forms of parenting examined here. Their focus is primarily on rupture, attachment disruption, and the challenges of reunification, whereas “parenting by proxy” describes a condition in which parental authority, care, and emotional presence are continuously sustained across distance through platforms, tutors, guardians, school staff, and education agents. In this context, separation does not produce absence in any straightforward sense. Rather, it generates a mediated form of presence that sustains intimacy while simultaneously intensifying surveillance, comparison, and anxiety.

Similarly, Baldassar and Merla's (2014) concept of "care circulation" provides an important framework for understanding how transnational families maintain emotional connection, reciprocity, and co-presence across distance. Yet their framework does not fully account for the institutionalised and technologically-mediated delegation of parental authority that characterises elite educational migration. Their analysis privileges the circulation of care within kinship networks, whereas "parenting by proxy" draws attention to the redistribution of parenting itself across digital infrastructures. In this configuration, parenting is not merely maintained through care and communication; it is reorganised through regimes of surveillance, discipline, emotional oversight, and classed educational aspiration.

Boccagni's (2012) account of transnational motherhood likewise highlights the emotional ambivalence of parenting at a distance, particularly the tension between affective commitment and the perceived inadequacy of long-distance care. However, his framework remains centred on migrant mothers' attempts to compensate for absence through remittances, communication, and hopes of reunification. It does not fully capture the digitally saturated and institutionally delegated forms of parenting examined here, where parental authority is not simply weakened by distance but redistributed across platforms and intermediary actors.

Importantly, the concept also has analytical portability beyond the specific case of Chinese elite education migration. It may be applied to contexts such as "study mothers" and "parachute children," migrant professional families, platform-based parenting, digital family life, and potentially even future forms of AI-mediated caregiving. The term "proxy" is particularly productive because it operates on multiple levels simultaneously: proxy caregivers who translate parental expectations into institutional norms of discipline, independence, and academic achievement; a proxy presence through digital co-presence; proxy intimacy, in which screens substitute for embodied closeness; proxy authority enacted remotely through mediated discipline; and proxy parenting as a classed infrastructure sustained through economic and technological resources.

Platforms such as WeChat and digital homework systems enable parents to remain embedded in children's everyday routines despite geographic separation, rendering intimacy inseparable from practices of monitoring, evaluation, and emotional oversight. Parenting is therefore redistributed across screens, institutions, and transnational networks in ways that sustain the perception of uninterrupted familial connection while simultaneously intensifying anxiety, comparison, and moral pressure. Although elite boarding schools cultivate autonomy and self-management, children remain digitally tethered to familial authority through continuous communication and mediated feedback. Digital infrastructures thus do not simply bridge distance; they reorganise it into a site of intensified care, surveillance, emotional labour, and moral negotiation, demonstrating that parenting is not weakened through separation but instead reconfigured through technologically-mediated continuity.

Elite boarding schools in the UK, among other benefits such as an entry to the global elite through globally accepted education credentials and social connections, promise independence through the experience of growing up in a foreign country without the physical presence of close family members. Yet the students' phones carry nightly messages from parents, tutors, and online networks that travel with them across borders, who check in regularly to see how they are doing emotionally and academically. Using Gershon's concept of "porous social orders" (2019), I describe this condition as "porous enclosure." Boarding schools, as gated communities, are materially bounded spaces that cultivate discipline and autonomy, yet remain

digitally permeable to familial authority and transnational attachment. Thus, physical distance does not sever intimacy; rather, digital connectivity allows separation without detachment.

Family members often shared their struggles with distance, describing how they missed one another on a daily basis. To understand why such arrangements are sustained despite this emotional strain, I extend Yan's (2009) concept of neo-familism into a transnational context. Yan argues that post-socialist transformations in China have redistributed responsibility for risk management and social reproduction onto families, intensifying moral obligations toward the "treasured child," who becomes the family's central moral project and around whom aspirations for future stability and success are organised.

I consider how this intensified focus on the child and their educational credentials places significant pressure on them. The child may be perceived as "spoilt," yet simultaneously carries the burden of securing success for the entire family. It is this "transnational neo-familism" that drives elite education migration strategies. Building on Yan's framework, I suggest that contemporary education migration reflects a transnational extension of post-reform familial values.

At the same time, overseas schooling functions not merely as a strategy of social mobility, but as an ethical project embedded in an intergenerational process in which the child's well-being is central and the family remains the primary site of care and security. Decisions about separation, schooling, and mobility are framed as acts of sacrifice and care, justified through aspirations for present well-being, social distinction, and future security which digital communication facilitates. Extending Yan's classic concept, I call this configuration "transnational neo-familism": a moral project sustained between parents, grandparents, and siblings in China and children "parachuted" into the UK.

Through this affective turn within migration strategies there emerges a paradox of aspiration: Although elite educational pathways abroad are perceived to serve the interests of the entire family and to secure the child's well-being and future success, distant parenting simultaneously transforms the meanings of care, belonging, and authority in transnational family life. Digital communication thus aims to compensate for this paradox and alleviate anxieties.

## 2. WeChat as Emotional Infrastructure

Active groups on WeChat, the most widely used social media platform among local and diaspora Chinese and actors in the global education-migration infrastructure, play a crucial role in sustaining this emergent affective economy. These digital communities function as emotional infrastructures that absorb and circulate the moral consequences of migration. For instance, many parents exchange stories of children's burnout, breakdowns, and fragile recoveries; they share examples from popular psychology books, links to mindfulness podcasts, and screenshots of therapy recommendations. Through these interactions, they collectively reframe distress as a normal, even necessary, component of "raising a global child."

Within the boarding school ecosystem, teachers and guardians in the UK, education consultancy agents in China, and globally dispersed online tutors act as intermediaries who translate parental expectations into institutional norms of discipline and independence. They monitor children's academic progress and well-being, relay updates across borders, and sustain parental oversight at a distance. While this arrangement maintains everyday transnational connections, it also generates heightened anxiety for both parents and children.

On the one hand, separation intensifies parental fears of relational weakening and diminished influence over their child's future trajectory. Digital communication sustains connection, yet it may also strain parent-child relationships, as children experience frustration under forms of remote moral supervision. Messaging applications, platform-based updates, and mediated reports enable constant oversight, producing emotional ambivalence: love expressed through distance, care intertwined with control.

On the other hand, this dynamic reveals a deeper paradox. Families often remove children from what they perceive as the dehumanising pressures of educational competition in China, only to place them within a qualitatively different, yet equally demanding, educational and social environment in the UK. In a context in which educational aspiration is oriented toward certainty, stability, and future security, digitally enhanced productivity, parents checking in daily about academic progress and urging greater effort, and constant connectivity intensify moral dilemmas about what constitutes "good" parenting and the "best" education. Digital connection thus simultaneously sustains and strains transnational family ties, exposing the unresolved tension at the heart of contemporary elite mobility projects.

These same digital networks can also amplify anxiety. Advice chains move quickly from empathy to prescription, from compassion to comparison. When one parent confesses that her son has begun therapy for depression, another counters with her daughter's resilience as evidence of proper parenting. In this way, emotional sharing becomes moral judgment. The boundary between care and competition blurs, mirroring the broader dynamic of social involution (内卷; Liu, 2021; Q. Wang & Ge, 2020), the growing self-awareness of the pointlessness of an arms race of affective competence and its consequent feeling of burnout.

This ambivalence reveals the double-edged character of a digital community. On the one hand, WeChat groups enable mutual recognition among parents who feel isolated by geography and secrecy. On the other, they reproduce the hierarchies of performance that propel families into the migration system in the first place. Infrastructures designed to sustain solidarity ultimately extend circuits of pressure: not only for children, but for parents themselves.

### 3. Institutional Mediation and Remote Care

Sending children alone to UK boarding schools generates heightened anxiety for both parents and children. Separation intensifies parental fears that emotional bonds may weaken and that their influence over their child's future trajectory may diminish. For many families, education is not only an individual project, but a collective one: The child's achievements accrue prestige to the family and open pathways into global social networks. The perceived financial, emotional, and reputational stakes heighten the urgency of maintaining oversight.

This dynamic is especially pronounced in the context of migration, which unfolds as a long-term family project. Overseas schooling is framed as a strategy to secure the child's well-being and future success by removing them from a hypercompetitive education system, while simultaneously enhancing the family's social status through the child's achievements. Parents coordinate this project through a global team of education-migration actors, who collectively mediate care, discipline, and aspiration across borders.

Digital communication sustains connection, yet it also transforms it. WeChat calls, mediated updates from educational staff, and constant messaging enable forms of remote moral supervision. Children often experience this as intrusive or frustrating, particularly as schools promote autonomy and independence. The result is emotional ambivalence—emotions expressed through distance; care intertwined with control.

#### 4. The Moral Dilemma of Global(ised) Aspiration

In a context where educational aspirations are oriented toward certainty, stability, and future security, education migration is imagined as a pathway that promises both present well-being and the concerted cultivation of a future elite, an attempt to secure advantage in an unpredictable world. Yet digitally enhanced productivity and constant connectivity intensify moral dilemmas around what constitutes the “best” education and the “best” form of parenting.

As Froerer argues in her recent work on education, aspiration, and social mobility among marginalised Adivasi (tribal) youth in rural India, “education simultaneously represents a strategy for mobility and a tangible risk, whose transformative potential is far from guaranteed” (Froerer, 2026, p. 104). This ambivalence is not confined to marginalised contexts, nor is it unique to Chinese elites. Across social classes and cultural settings, education operates as both promise and gamble, an investment saturated with hope while shadowed by uncertainty.

Digitally enhanced education amplifies this condition. Learning through apps, global tutors, and platform-based systems extends opportunity while simultaneously expanding the terrain of comparison, evaluation, and responsibility. Rather than stabilising aspiration by offering guarantees for future success, digital infrastructures intensify its precariousness, multiplying the points at which success can be measured, judged, and found wanting.

#### 5. Digital Tools and the Extension of the Familiar

Preparation for elite UK boarding schools begins years before formal applications, sometimes even before a child is born. One father recalled selecting an international kindergarten while his wife was still pregnant: “We already knew that our child would go abroad. That was never a question.” Overseas education was imagined as a carefully engineered plan.

From early childhood, children are enrolled in international kindergartens and British-style primary schools. Parents hired foreign tutors to cultivate not only English language proficiency but also accent, classroom behaviour, and confidence in communicating and learning through “Western” pedagogical norms (especially critical and creative thinking skills and debating). Summers in the UK or the US further normalised these orientations. Preparation was described as “getting used to the Western system” (not just through globally accepted exams) long before departure, so that adjustment to a new system abroad would be smoother.

Digital tools were central to this process of normalisation. Many students studied online with UK-based tutors months or even years before physically relocating. Crucially, these relationships often continued after the move. Several children told me that they still met the same tutor online once enrolled at boarding school

in the UK. The platform changed little; the faces on the screen remained familiar. One student explained, “Even when I moved, my tutor didn’t change. So, it didn’t feel completely new.”

In this sense, digital education provides continuity between home and the new environment. Children are already globally connected long before relocating, studying with tutors based in the UK and online across the world. Parents also use similar digital apps to communicate with the teachers while the child is in China and after they move to the UK. In China, as one mother once put it, laughing ironically:

I’m constantly checking my phones for updates on Ding Talk (钉钉) from the school and what we have to do. I wanted to have a digital detox for a month, but I can’t do that even for a day!

Once the child moves abroad, parents communicate with the UK school through the education consultancy that uses WeChat, so the familiarity of the digital, accelerated dynamic continues, but on a global scale.

However, despite more than a decade of preparation for overseas boarding, psychological adjustment remains fraught. Among the Chinese international students I came to know through my research in the UK, as well as local students who experienced long-term boarding, narratives of psychological struggle are now more openly discussed, as some recent literature also mentions (Duffell, 2000; Schaverien, 2015). I heard numerous accounts of homesickness, anxiety attacks, insomnia, and eating disorders, which also circulate widely on Chinese-language social media and within guardianship networks. British schools, increasingly attentive to safeguarding obligations, have expanded counselling provision and introduced mindfulness training. Yet, extensive preparation does not eliminate vulnerability; if anything, it heightens the emotional stakes of success and adaptation.

For many students, however, these forms of institutional care remain culturally unfamiliar. As one student put it:

Sometimes we want to talk about our problems, homesickness or conflicts with parents or friends. Or living in a foreign country. Even though there are counsellors at the school and there is no language barrier, they don’t have a transnational experience and they don’t really understand us Chinese students.

This points to the longer-term consequences of outsourcing parental responsibility through early family separation, and highlights both the limits of institutional care and the marginalisation of children’s voices within transnational education arrangements.

Regular digital check-ins softened geographical separation. Parents in China continued to monitor homework, exchange messages with tutors, and receive updates through familiar platforms, even after their children passed through the physical gates of British boarding schools. Time zones were negotiated through late-night calls and early-morning messages. One mother described watching her daughter’s progress online from Shanghai: “I want to still see what she is doing.” The digital interface extended parental presence across borders.

Familiarity was reinforced not only academically but socially. Children consumed the same social media content before and after migration, continuing to follow the same influencers while in the UK, watching the same short videos, participating in the same global youth culture online. Several students described feeling “already connected” to life abroad because their digital worlds had long transcended national boundaries. The move to the UK was spatial, but their online sociality had already been transnational.

When students arrived at their boarding schools, they encountered digital platforms for assignments, reporting, and communication that operated through similar logics to those they had used in China: homework uploaded online, feedback delivered digitally, performance tracked through dashboards. The technological environment did not feel foreign. As one student put it, “It works the same way.”

Digital tools thus produced continuity across borders: Students encountered academic, relational, and affective continuity. The gates of elite boarding schools were materially real, yet digitally porous. Tutors remained globally reachable. Parents remained informed. Peers in China remained accessible through social media feeds on Red Note (小红书, similar to Instagram), Douyin (抖音, the Chinese TikTok), and WeChat. Migration, then, did not sever connections; instead, it reorganised them through platforms.

For these families, digital tools transform migration into extension rather than interruption. Children study with the same tutors before and after relocation. Parents maintain regular affective check-ins across time zones. Academic systems operate through familiar interfaces, while social media cultures remain shared. The future abroad is rehearsed daily on screens at home. Mobility, in this sense, is experienced as continuous because its infrastructures are continuous. The unfamiliar is rendered familiar in advance through platforms, relationships, and constant digital presence. The boarding school may stand behind gates, but digitally, it is already within reach.

At the same time, this continuity was inseparable from regimes of monitoring and optimisation. Parents described constant notifications and the pressure to respond immediately. Care took the form of surveillance; intimacy became dehumanised control at a distance, enacted through proxies. To monitor was to love, to check was to protect. The same systems that provided reassurance also intensified responsibility and comparison. Performance was visible at all times.

This infrastructural continuity is not accidental. As Latour (1991) argues, social worlds are stabilised through networks of human and technological actors. Xiang and Lindquist (2018) similarly suggest that migration is organised through infrastructures that precede and structure movement. In the lives of these families, educational and digital infrastructures were assembled transnationally before departure. What migrated was not only the child, but also a pre-existing alignment of tutors, platforms, evaluative standards, and mediated relationships.

Importantly, this assemblage is class-based (Liu-Farrer, 2016). Maintaining the same tutors across borders, enrolling in elite schools both in China and the UK, purchasing consultancy services, and sustaining high-speed digital connectivity require substantial economic resources. The smoothness of transition, the sense of familiarity rather than rupture, is produced through sustained investment. Digital continuity becomes a form of capital that cushions mobility and renders elite integration as natural.



Overall, digital infrastructures do not merely accompany mobility; they pre-structure it. By sustaining the same tutors, platforms, communicative rhythms, and peer cultures across borders, they transform elite migration from rupture into managed continuity. This manufactured familiarity, affectively reassuring yet disciplinarily intensive, is itself a form of capital, available only to those who can afford its economic and temporal costs. The smoothness of transnational transition, therefore, is not natural, but is instead infrastructurally produced, revealing how digital continuity functions as a quiet yet powerful mechanism of elite reproduction.

## 6. Digital Tools and an Immersive Experience at a Gated Community

One of the primary reasons that parents gave for sending their children to boarding school at an early age was the promise of “immersion” in British and international culture. Immersion was imagined as transformative: linguistic fluency, cultural ease, independence, and distance from what several parents described as the intensity of Chinese schooling and parental oversight. Yet this immersion was never intended as permanent detachment. Most parents anticipated that their children would eventually return to China, whether after university or later, and thus needed to remain, as some of my research participants put it, “comfortable,” “confident,” and “know[ing] the culture” in both worlds.

Immersion therefore unfolded within a layered dynamic of digital attachments. While children relocated to the UK, their parents largely remained in China. Children travelled home during half-term breaks, at Christmas, and especially for the summer holidays, often for extended stays. Physical distance was sustained, but digital proximity remained constant.

Digital media did more than preserve family contact; it maintained continuity. Students followed Chinese social media platforms, consumed the same online content as peers at home, and participated in ongoing linguistic and cultural exchanges. Several told me they felt “up to date” with trends in China despite living abroad. This sustained familiarity was viewed by parents as strategic: Keeping children connected to Chinese language, humour, popular culture, and social norms would ease eventual readjustment. Mobility was framed not as exit, but as a temporary extension.

Boarding schools presented themselves as spaces of structured independence: functioning through regimented routines, communal living, monitored study hours, and pastoral care systems. Students were expected to navigate schedules, free time, friendships, and academic work with increasing autonomy. At the same time, parental authority did not disappear; it was recalibrated through screens. Regular digital contact reintroduced familiar hierarchies. Several boarding staff observed that some students avoided calls after receiving poor grades, anticipating anger or disappointment from afar. Others described children temporarily refusing communication, expressing resentment or a sense of abandonment. As one housemistress explained, noting that frequent WeChat contact could hinder adjustment, “The mother calls and sometimes children don’t want to talk to them. They are too upset that they have to be here alone.”

This dynamic resonates with Madianou’s concept of “ambient co-presence” (2016, p. 183), developed in her work on transnational Filipino families. She describes a form of low-intensity yet continuous awareness made possible through ubiquitous social media and mobile connectivity. Rather than relying solely on direct interaction, family members remain peripherally attuned to one another’s daily rhythms through notifications, feeds, and updates. Such constant, often subtle, awareness can generate reassurance and emotional closeness, but it also enables new forms of surveillance and moral evaluation.

A similar condition emerges in elite education migration. Parents in China do not communicate with their children only at scheduled moments; they remain loosely yet persistently aware of their academic performance, moods, and social lives through school apps, WeChat updates, tutor reports, and digital messages. Immersion therefore unfolds within a condition of ambient parental presence.

In this sense, WeChat operates not merely as a tool of communication, but as an infrastructure of social life, embedded in everyday labour, family practices, and social organisation. As X. Wang (2016) argues in *Social Media in Industrial China*, digital media are not “virtual” supplements to offline life, but are structuring its conditions. Based on fieldwork among migrant workers in southeast China, X. Wang describes a “second migration”: a movement from offline to online worlds. This shift is not simply metaphorical. Rather, it reflects the convergence of two transformative processes, through which online spaces come to provide a sense of dwelling and belonging for those who otherwise feel displaced.

Similarly, for transnationally mobile students, digital infrastructures do not merely connect two locations; they reshape the experience of presence itself. Immersion abroad remains partial. Online communication sustains Chinese-language interaction and preserves affective dynamics from home. The very distance intended to foster independence is softened, and at times complicated, by constant connectivity. As one staff member remarked, “These children are here, but not entirely here.” Another noted, half-jokingly, that “sometimes we have to ‘discipline’ the parents to call less.”

Yet immersion was also vividly real and positive. Many of the students I spoke to described their much-anticipated time in England through romantic images of castle-like buildings reminiscent of Hogwarts, chapel bells, regimented daily routines, and a close-knit community. They evoked expansive green fields, quiet towns, and an atmosphere that felt both cinematic and contained, an aestheticised imaginary of Britain that is shaped as much by global cultural references as by institutional branding.

They emphasised what they perceived as more relaxed hierarchies with their teachers and boarding school staff: first-name exchanges, shared meals, and small everyday intimacies such as a housemaster’s dog wandering through the common room. Boarding school life, enclosed behind gates and somewhat removed from everyday British society, was often described as safe, cohesive, and aspirational. In contrast to the digitally saturated, carefully monitored transnational family life that preceded and accompanied their departure, the boarding school appeared as a bounded pastoral world that was rhythmic, face-to-face, and seemingly self-contained. Many students missed home deeply, yet also appreciated being away from what they called “strict parental eyes,” even as those eyes remained present through screens. One of my research participants, Christy, while she was 15, at one point told me, lowering her voice, that her parents still expected perfect scores, keeping an eye on her across the boarding school gates when they came to visit and online across from China.

Digital connection complicates this transformation. On the one hand, WeChat calls and messaging sustain emotional bonds and mitigate loneliness, potentially buffering against long-term psychological distress associated with early separation. On the other hand, digital communication reintroduces the authority structures the move abroad was partly designed to loosen. Local tutors in China continued to supervise work remotely; parents monitored grades and offered to correct their work from afar. Another contradiction surfaced poignantly in a conversation with students I spoke to who were studying at UK boarding schools.

They described how their daily timetable, filled with music lessons, sports training, language study, and exam preparation, did not feel that different from life in China.

Parents closely monitor grades, league tables, and UCAS (Universities and Colleges Admissions Service) outcomes from afar and exert pressure on the children through WeChat conversations: As one mother said, “We don’t want to make the mistake of not helping them succeed in the UK.” The remark captured both an awareness of the costs of early separation and an unresolved belief that international education remains necessary, even as policies aimed at reducing involution struggle to contain its everyday reproduction. The immersive “British boarding school environment” was therefore never fully sealed.

The immersive experience, then, is neither purely national nor fully enclosed. It operates within a porous enclosure. The boarding school is materially bounded, gated, regimented, and spatially distinct, yet digitally permeable. Through daily messages, shared tutors, grade monitoring, and social media feeds, familial authority, linguistic habits, and cultural familiarity traverse its boundaries.

This porosity does not negate immersion; it reshapes it. Students learn independence within an environment that remains digitally tethered to home. They inhabit British institutional routines while continuing to participate in Chinese familial expectations and cultural life. The enclosure produces safety, cohesion, and elite socialisation, but its permeability ensures that transformation is negotiated rather than absolute.

If digital infrastructures pre-assemble familiarity before migration, they also sustain continuity after arrival, preserving cultural fluency for anticipated return while softening separation in the present. Elite transnational mobility is thus organised not through rupture, but through carefully managed thresholds: immersion without severance, distance without disconnection.

## 7. “Transnational Neo-Familism” in the Digital Era

Despite the intensity of digital connectivity, many parents insisted that technology could not replace physical closeness. “Video calls are not the same as being together,” one mother told me. Their reflections resonate with long-standing work on attachment and embodied presence. For instance, Montagu’s (1986) work on the significance of touch emphasises the physiological and psychological need for tactile contact, while attachment theory underscores the importance of proximity in cultivating security. Screens can transmit voice and image, but they cannot reproduce touch.

This tension becomes particularly acute within contemporary Chinese neo-familism, where the child is positioned as the moral and emotional centre of family life. Intensive parental involvement in education is not merely aspirational, but is also normative. Success is collective; responsibility is shared. Early overseas boarding, however, requires physical separation at precisely the stage when neo-familial intimacy is culturally heightened.

Here, neo-familism intersects directly with what I have described as “porous enclosure.” The boarding school is spatially bounded, designed to cultivate independence through routine, discipline, and communal life. Yet its enclosure is permeable. Parental voices travel through phones; expectations circulate through messages; tutors continue online across time zones. The child resides within the institutional microcosm of

British boarding, but remains embedded in familial oversight and affective obligation. Homework can be checked remotely; grades monitored instantly; emotional states assessed through late-night video calls. The child's relocation does not dissolve parental authority, but instead reorganises it.

Digital mediation thus resolves and reproduces a contradiction. It allows elite families to pursue transnational mobility, a strategy of making the best choice for future success, without fully relinquishing proximity. At the same time, it intensifies monitoring. To remain connected becomes a moral imperative. One parent remarked, "If I don't check every day, I feel I am not doing my duty. And I also think I miss out on their lives and our time together." In this sense, care becomes inseparable from surveillance.

This arrangement is not neutral: It reflects an invested capacity to sustain both distance and connection. Maintaining daily international communication, coordinating private tutors across borders, and ensuring technologically-mediated oversight requires economic resources, temporal flexibility, and sustained emotional and organisational labour. Elite mobility depends not only on the ability to send a child abroad, but on the capacity to remain digitally present afterwards.

At the same time, digital transnationalism introduces new anxieties. Parents distinguished between "productive" platforms, school-sanctioned apps and tutoring systems, and the broader online environment, which they associated with gaming, inappropriate content, and peer influence beyond their supervision. As public debates increasingly warn that excessive screen time may undermine children's well-being (Haidt, 2024), children were perceived as both more reachable and more exposed. The digital extension of neo-familial care thus expanded the terrain of perceived risk.

"Transnational neo-familism" in the digital era therefore does not necessarily weaken family bonds; it "technologises" them. Physical absence is compensated for through intensified communication, and emotional attachment is maintained through screens while authority persists across borders. The result is a family form that stretches rather than breaks, sustained through infrastructures that make elite mobility appear compatible with intimate parental involvement.

If "porous enclosure" describes the institutional condition of elite boarding schools, then "transnational neo-familism" describes its affective foundation. Digital tools enable separation without severing intimacy, and immersion in a new environment without full detachment. Elite mobility, in this sense, is not a departure from family centrality, but its reconfiguration through technologically mediated continuity.

## 8. Reimagining the Global: Digitalism and the Reshaping of UK-Bound Mobility

In conversations with children and parents, it became clear that overseas education was rarely imagined as a permanent departure. Rather, there was a strong and explicit need to sustain connections with China, which was increasingly described as a "good place," perceived as safer and, despite economic slowdown, still more stable than "other countries." Parents repeatedly emphasised that their children must not "lose the China connection" while abroad. Many arranged supplementary lessons in Mandarin, Chinese history, literature, and essay writing (both in Chinese and English) to ensure linguistic fluency and cultural competence were maintained. As one parent explained, "They must be able to integrate again into a Chinese company and work with Chinese colleagues and teams when they come back."

Overseas education was thus framed as a strategic long-term plan rather than exit. The child's mobility was future-oriented and hypermobile, as imaginaries of their future job, travels, and social connections were extended globally, while maintaining familiarity with Chinese culture, language, and professional norms was considered essential for eventual reintegration.

Therefore, what some education consultants previously described as the “honeymoon period,” when the UK (along with the US) was regarded as the ultimate educational destination, appears to be waning. Until the late 2010s, education-migration was widely imagined as a pathway to the “good life,” with Britain occupying a privileged symbolic position and student numbers steadily rising from the early 2010s (Boarding Schools' Association & Connexcel, 2023). According to the Independent Schools Council (2025) report, mainland Chinese students whose parents live overseas constituted by far the largest group of non-British pupils at UK boarding schools in 2025, numbering 10,959. The second-largest group came from Hong Kong, with 7,226 students, out of a total of 61,750 non-British pupils (Independent Schools Council, 2025). Although applications from mainland China to the UK dropped sharply during the Covid-19 pandemic, in my conversations with families in China I increasingly heard reluctance to separate from children at such a young age, often as early as 11. A mother explained their decision to delay overseas study for a 10-year-old child:

My second child will go to England at a later stage. Or they may not go at all! I can't bear the thought of having all my children abroad. I want to keep the family together longer. And we have lessons available here too. Maybe it's enough to go just for Sixth Form, to prepare for A levels.

Among my participants, the fading allure of the UK was attributed not only to structural constraints, such as tightening immigration regimes, but also to everyday affective disappointments: complaints about food, climate, and social life, as well as, significantly, parental regret over early family separation.

More importantly, the decline of the imaginary of the UK coincides with a diversification of what counts as “international.” Families increasingly map aspirations onto a regional geography of prestige in which Singapore, Japan, Hong Kong, and other Asian hubs emerge as alternative centres of global schooling. Simultaneously, the growing concentration of Chinese students in UK selective schools is perceived by some parents as diluting the promise of cultural immersion. If elite institutions no longer reflect an imagined British social world, the symbolic value of “going abroad” as a transformative encounter weakens.

This shift signals a rescaling of aspiration from transnational mobility toward what might be described as “global but China-oriented”: destinations that offer English-medium education, safety, and international credentials without the emotional and logistical costs of long-distance separation.

One key driver of this reorientation is the rapid rise of Chinese-style international schools (CSIS; Probert, 2024), which align closely with Chinese cultural values while maintaining international accreditation. These institutions often loosen *hukou*-based access restrictions (state schools in China admit students based on their *hukou*, the location-based household registration system; see Kipnis, 2011) and create “abroad-path” tracks within China itself. As market competition intensifies, long-term study in the UK appears less necessary. For many families, overseas education becomes a shorter, targeted investment, frequently limited to sixth form as preparation for university, rather than a prolonged formative relocation.

In this context, nationalist discourses resonate strongly. China is increasingly reimagined not as a place to leave behind, but as stable, culturally coherent, and comparatively secure in an unpredictable global environment. For many families, remaining physically together for longer becomes desirable, even if educational credentials remain internationally oriented.

Digital infrastructures play a crucial role in this recalibration. Global online tutoring, transnational school platforms, and constant communication reduce the perceived necessity of early and prolonged physical relocation. Educational capital can be accumulated across borders without fully crossing them. As a result, families are able to delay departure, shorten periods abroad, or strategically time mobility around key examination stages. Mobility itself is being reorganised: Long-term migration gives way to shorter, targeted, and reversible movements. The global is no longer synonymous with distance; it is increasingly assembled through digitally mediated proximity.

## 9. Conclusion

This article examined how digital technologies mediate Chinese elite education migration to UK boarding schools and reconfigure kinship, care, and belonging across borders. Following children “parachuted” to the UK at the age of 11 and families who remain in China, I have shown that separation does not weaken parenting so much as reorganise it through platforms, institutions, and intermediary actors. What I term “parenting by proxy” describes a digitally enabled assemblage in which tutors, guardians, school staff, and education agents translate parental expectations into everyday educational and pastoral practices, while platforms such as WeChat sustain continuous oversight, reassurance, and evaluation. Distance, in this sense, is not simply an absence to be bridged, but a condition actively managed through infrastructures of connection.

At the centre of these arrangements lies a tension between the boarding school’s promise of autonomy and the persistence of familial authority across distance. Drawing on Gershon’s notion of porous social orders, I have characterised elite boarding as a porous enclosure: an institutional world designed to cultivate independence, yet digitally permeable to parental presence and transnational attachment. Digital connectivity enables what might be described as “separation without detachment,” softening rupture while intensifying surveillance, responsibility, and emotional labour.

Extending Yan’s concept of “neo-familism” into a transnational context, I have argued that these practices are sustained by a moral economy in which the child becomes the central ethical project of intergenerational life. Thus, “parenting by proxy” reflects more than technological transformation alone. It emerges from “transnational neo-familism,” in which parental and grandparental obligations, aspirations, and anxieties are stretched across borders and maintained through continuous digital mediation. The infrastructures that make overseas education possible simultaneously sustain intimacy and intensify pressure, generating what I have called the “paradox of aspiration.”

Finally, the article has situated these dynamics within a broader reshaping of UK-bound mobility. As the symbolic dominance of the UK becomes less taken-for-granted and China-based international schooling expands, digital infrastructures increasingly reduce the perceived necessity of prolonged physical relocation. The “global” is no longer experienced solely through distance and departure, but through digitally-mediated proximity. Contemporary elite education migration, therefore, should be understood less as rupture than as an infrastructurally produced continuity: class-based, technologised, and morally-driven.

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## About the Author

**Andrea Szinay-Kis** is a research associate in the Department of Social Anthropology at the University of Sussex. She lived and worked in Shanghai between 2010 and 2019, and her doctoral research drew on longitudinal ethnography (2021–2023) to examine global education-migration infrastructures, with a particular focus on elite private tutoring and transnational Chinese families who send their children to UK boarding schools. Building on Yan Yunxiang’s (2009) concept of “neo-familism,” she develops the notion of “transnational neo-familism” to trace how family values and socio-cultural processes circulate across borders, and to analyse the everyday tensions between individual aspirations and collective family obligations that are intensified by transnational mobility. Her current research explores processes of social and infrastructural involution, focusing on how families engage with digital educational technologies in domestic settings and how these engagements reshape state–individual and parent–child relationships, practices of self-making, and competing moral values.



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