

# Caring Across Borders in the Digital Age: Emotional Labour, Burnout, and AI-Mediated Migrant Care Work in Europe's Ageing Societies.

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## Abstract

**Background Statement:** Europe is navigating a complex intersection of an unprecedented demographic shift, characterized by rapid population ageing, and a structural deficit in formal long-term care (LTC) provision. To sustain their social care systems, wealthier European nations have become structurally dependent on cross-border migrant care labor, creating what sociological literature conceptualizes as "Global Care Chains." Concurrently, emerging digital solutions, ranging from Natural Language Processing (NLP) scribes to automated ambient sensors, are increasingly introduced to alleviate these structural challenges. This empirical paper investigates the intersection of transnational mobility, emotional labor, burnout, and Artificial Intelligence (AI) among migrant elderly care workers in Europe.

**Methodology:** Drawing on a qualitative phenomenological design involving semi-structured in-depth interviews with migrant caregivers (N = 24), this study explores how cross-border care workers navigate the dual burden of professional emotional regulation and transnational family caregiving within changing technological environments. Using Arlie Hochschild's Emotional Labour Theory, Christina Maslach's Burnout Triad, and Joan Tronto's Ethics of Care, thematic analysis reveals that migrant caregivers experience acute "emotional dissonance" driven by intensive surface acting, structural isolation, and systemic precarity.

**Sample:** The sample involves a qualitative phenomenological design involving semi-structured in-depth interviews with migrant caregivers (N = 24). The final sample consisted of 24 female migrant care workers currently or recently employed in Western European elderly care settings (Germany, Austria, and Italy). Country of Origin: Hungary (9, 37.5%), Romania (8, 33.3%), Poland (7, 29.2%). Employment Model: 24-Hour Live-in (Circular) (14, 58.3%), Formal Institutional Care (10, 41.7%).

**Conclusion:** While AI tools offer a critical structural buffer by automating administrative tasks and bridging linguistic gaps, their deployment introduces new socio-technical stressors, including automated surveillance and the erosion of private, off-duty spaces. The paper concludes with actionable policy recommendations aimed at aligning the European Union's Artificial Intelligence Act with workforce welfare, regularizing informal care arrangements, and establishing sustainable, ethically grounded socio-technical care economies.

**Keywords:** Migrant Care Work, Emotional Labour, Burnout, Global Care Chains, Artificial Intelligence, Socio-Technical Care, Ageing Europe

## Introduction

The demographic landscape of the European Union is undergoing a profound structural transformation. According to Eurostat projections, the proportion of the population aged 65 years or older will increase from 21.1% in 2022 to 32.5% by 2100, with the segment of individuals aged 80 and over expected to more than double. This rapid demographic ageing has generated an acute crisis within Western European long-term care (LTC) systems. Welfare states, constrained by fiscal austerity and chronic shortages of domestic labor, have increasingly shifted away from institutionalized, state-run residential care toward the marketization and familialization of home-based elderly care. To bridge the yawning gap between public care provision and familial deficits, wealthier European nations, such as Germany, Austria, Italy, and the United Kingdom, have become structurally dependent on the extraction of migrant care labor (Lutz & Palenga-Möllnbeck, 2012). This cross-border mobilization of caregiving forms what sociologists define as "Global Care Chains" (Hochschild, 2000; Parreñas, 2001). Typically, women from Central and Eastern Europe (such as Romania, Hungary, Poland, and Ukraine) or the Global South migrate to Western European destination countries to fill low-wage, precarious positions as live-in or domiciliary elderly care workers (see also Kofman, 2014; Lutz & Palenga-Möllnbeck, 2010; Van Hooren, 2012).

**Objective:** This empirical paper addresses a significant gap in contemporary social policy and sociological literature by analyzing the lived experiences of emotional labor, burnout, and coping mechanisms among migrant elderly care workers within Europe, specifically examining how these experiences are mediated by the deployment of AI. Moving beyond localized critiques, this study frames cross-border care as an intersectional issue where gender, nationality, legal precarity, and technological frameworks converge. Through a qualitative phenomenological approach, this paper highlights the invisible emotional costs of sustaining Europe's aging societies and argues for systemic institutional and technological reforms within the contemporary European care economy (see also Baldassar & Merla, 2014; King-Dejardin, 2019).

**Structure:** The roadmap and structural trajectory of this research proceed as follows:

1. Deep Theoretical Synthesis and Literature Review: Synthesizes three foundational theoretical frameworks: Arlie Hochschild's (1983) Emotional Labour Theory, Christina Maslach's (1981, 1993) Burnout Triad, and Joan Tronto's (1993, 2013) feminist Ethics of Care. Includes Section 1.2.1 and Figure N°1: The Dual Burden Transnational Cycle Framework.

2. Comprehensive Methodology and Qualitative Design: Outlines the qualitative phenomenological research design, sampling parameters (N=24), participant baseline demographics, data collection strategy, and Braun and Clarke's reflexive thematic analysis steps.

3. Empirical Findings and Qualitative Analysis: Explores the emergent themes from the fieldwork data, breaking down intensive surface acting, transnational split stressors, defensive depersonalization coping pathways, and automated AI monitoring anomalies.

4. Comparative and Policy Analysis (Discussion): Expands on Global Care Chains, details Table N°2 (Cross-Model Comparison Matrix), and evaluates methodological limitations and future pathways.

5. Conclusion: Synthesizes findings and details explicit policy interventions regarding democratic AI governance, sectoral regularization, targeted upskilling, and paid transnational leave.

## **1. Deep Theoretical Synthesis and Literature Review**

This study evaluates the intersectional vulnerabilities of migrant caregivers by synthesizing three foundational theoretical frameworks: Arlie Hochschild's (1983) Emotional Labour Theory, Christina Maslach's (1981, 1993) Burnout Triad, and Joan Tronto's (1993, 2013) feminist Ethics of Care. Rather than treating these theories as isolated schemas, this paper integrates them to demonstrate how macro-structural migration policies and socio-technical infrastructures directly shape micro-level emotional states, psychological defense mechanisms, and the moral integrity of the human encounter.

### **1.1. Emotional Labour Theory (Hochschild)**

Arlie Hochschild's (1983) seminal framework explores how employees regulate their feelings and bodily expressions to meet institutional expectations. In elderly care, workers are mandated to display warmth, compassion, and patience while systematically suppressing personal frustration, grief, or fatigue. Hochschild distinguishes between surface acting, where the worker manipulates outward expressions without altering underlying feelings, and deep acting, where the worker consciously attempts to align their actual emotional state with occupational requirements. When a prolonged discrepancy exists between felt emotions and displayed emotions, workers experience emotional dissonance (Abraham, 1999). This functions as a primary driver of psychological strain, alienation, and identity fragmentation.

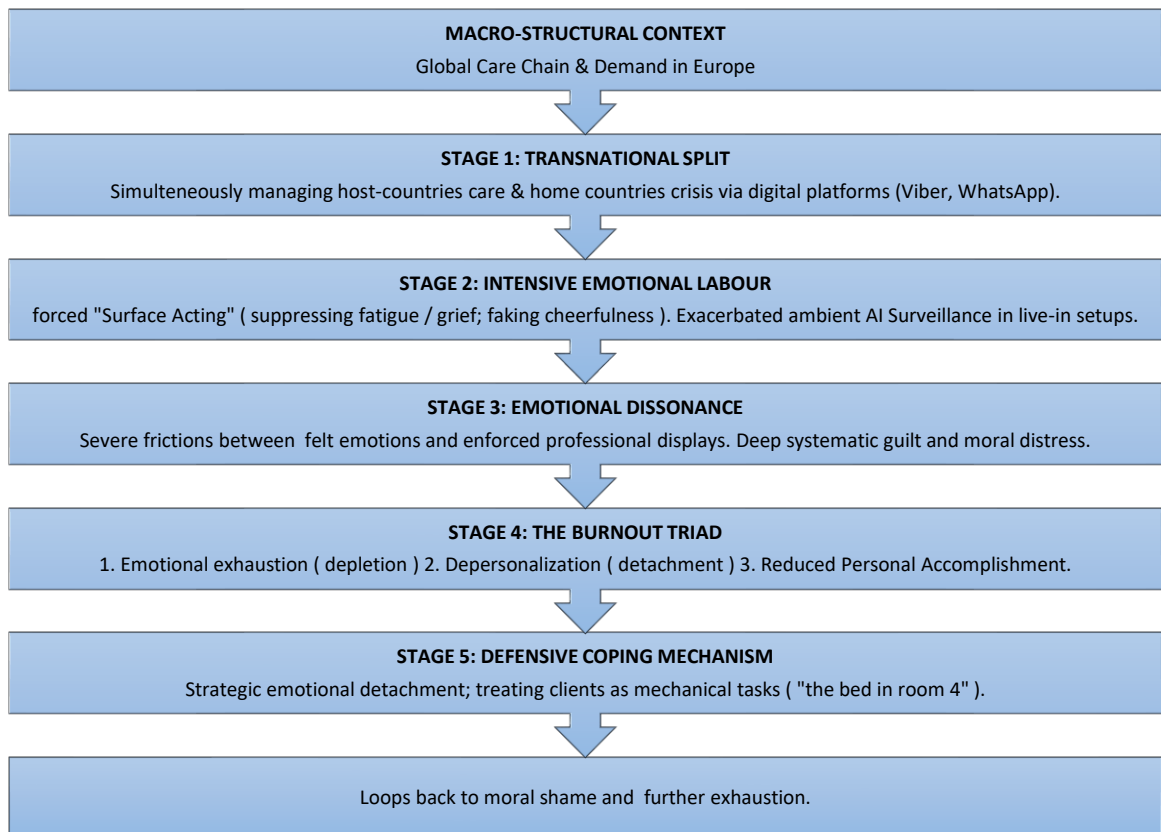
## 1.2. Burnout Theory (Maslach)

To operationalize the psychological consequences of chronic emotional dissonance, this study incorporates Christina Maslach’s multi-dimensional burnout model (Maslach & Jackson, 1981; Maslach, 1993). Burnout is conceptualized through three distinct axes: (a) Emotional Exhaustion, which entails the total depletion of psychic and emotional energy reserves, leaving the worker unable to give of themselves at a psychological level; (b) Depersonalization, involving the development of cynical, callous, and detached attitudes toward the recipients of care; and (c) Reduced Personal Accomplishment, which manifests as the tendency to evaluate oneself negatively, resulting in a perceived decline in professional efficacy and self-worth. For migrant caregivers, these dimensions do not develop in a vacuum; they are accelerated by isolation, language barriers, and the structural precarity of their employment contracts (Lutz & Palenga-Möllenbeck, 2012).

### 1.2.1. Conceptual Model: The Dual Burden Transnational Cycle

To visualize how emotional labor and burnout operating across international borders manifest as a synchronized, mutually reinforcing loop of psychological strain, the model below outlines the structural friction points confronting cross-border care workers:

**Figure N°1: The Dual Burden Transnational Cycle Framework**



**Source: Developed by the authors based on fieldwork data (2026)**

### **1.3. Ethics of Care (Tronto)**

Joan Tronto's (1993) political and philosophical framework positions care not as an abstract moral sentiment, but as a deeply relational, contextual, and political practice. Tronto outlines four moral dimensions of care: attentiveness, responsibility, competence, and responsiveness. In the context of transnational migration, the Ethics of Care exposes a structural paradox: migrant workers fulfill their relational responsibility and economic care obligations toward their families via financial remittances, yet they are structurally prevented from practicing physical attentiveness to their own kin (Tronto, 2013). This study extends Tronto's framework to the socio-technical domain, analyzing how the delegation of administrative or monitoring competence to AI systems alters the relational dynamics between the caregiver and the elderly recipient.

### **1.4. Technological Alleviation: AI as a Structural Buffer to Burnout**

In response to chronic workforce shortages and the intensification of transnational care demands, scholarship has increasingly focused on the role of emerging digital technologies and AI as critical interventions within long-term care infrastructures (ESN, 2026). While early iterations of assistive technologies focused primarily on the safety of the care recipient, contemporary AI systems are increasingly designed to optimize the workflow and psychological capacity of the caregiver (Eurocarers, 2025). The descriptive application of AI in reducing healthcare and eldercare burnout operates across two distinct modalities: administrative de-burdening and predictive occupational health monitoring (Blackman et al., 2022).

First, the primary vector of cognitive exhaustion among formal institutional care workers stems from the fragmentation of time caused by electronic health record (EHR) documentation and regulatory paperwork. AI-driven digital scribes, leveraging Natural Language Processing (NLP), possess the capacity to synthesize real-time ambient provider-resident verbal interactions into clinical text, reducing documentation time-sinks and lowering clinical cognitive overload (Wright & Schultz, 2023).

Second, advanced deep-learning frameworks, such as stacked ensemble architectures using tabular deep learning, are being deployed across European healthcare sectors to predict burnout risks, Long-COVID sequelae, and extended sick leave among care staff by continuously analyzing institutional workplace datasets.

However, within the migrant care paradigm, a stark socio-technical divide exists. As outlined by projects like Eldicare 2.0, the deployment of AI-driven home-based personalized care

systems demands an urgent upskilling and "AI literacy" among cross-border workers, who frequently navigate these sophisticated interfaces without formal institutional training or native language proficiency (ESN, 2026; see also Garcia & Kowalski, 2025; Ulianskaite, 2025).

## 2. Comprehensive Methodology and Qualitative Design

### 2.1. Research Design and Hermeneutic Phenomenology

This study employs a qualitative phenomenological research design (Creswell & Poth, 2018). Given that emotional labor, technological adaptation, and burnout are profoundly subjective, embodied experiences, a phenomenological approach allows for an in-depth exploration of how migrant care workers make sense of their daily lived realities, emotional strategies, and systemic vulnerabilities within host countries. It addresses experiences that are deeply intimate, conceptually complex, and structurally marginalized, capturing the lived essence of the fluid lifecycle.

### 2.2. Sampling and Participant Profile

Participants were selected using a combination of purposive and snowball sampling strategies to access hard-to-reach migrant populations. To bypass institutional gatekeepers (facility directors or private agencies) who might discourage participation due to fears of exposing labor non-compliance, recruitment calls were disseminated via independent diaspora community networks, migrant worker NGOs, and specific linguistic Facebook groups dedicated to cross-border care workers in Europe, such as Hungarian, Romanian, and Polish care worker support networks. The final sample consisted of 24 female migrant care workers currently or recently employed in Western European elderly care settings (Germany, Austria, and Italy).

**Table N°1: Participant Characteristic and Sample Distribution**

Participant Characteristic	Sample (N=24)	Distribution	Percentage (%)
<b>Country of Origin</b>			
- Hungary	9		37.5%
- Romania	8		33.3%
- Poland	7		29.2%
<b>Employment Model</b>			
- 24-Hour Live-in (Circular)	14		58.3%

- Formal Institutional Care	10	41.7%
<b>Age Range</b>		
- 28–42 years	6	25.0%
- 43–60 years	18	75.0%
<b>Years in Care Work</b>		
- Less than 2 years	4	16.7%
- 2–5 years	11	45.8%
- Greater than 5 years	9	37.5%

*Source: Computed by authors from fieldwork interview transcripts (2026)*

### 2.3. Data Collection Framework and Strategy

Data were collected through semi-structured, in-depth interviews conducted between late 2025 and early 2026. Due to the geographic dispersion of the participants, 16 interviews were conducted via secure online videoconferencing platforms (Zoom/Teams) and 8 were conducted via telephone. Interviews were carried out in the native languages of the participants (Hungarian, Romanian, or Polish) by bilingual co-researchers to ensure emotional nuances and colloquial professional expressions were accurately captured.

The interview guide was structured around four thematic blocks: (a) migration pathways and structural motivations; (b) daily practices of emotional labor and emotional regulation; (c) interactions with AI systems and telecare monitoring tools; and (d) manifestations of stress, exhaustion, and transnational coping mechanisms. Interviews lasted between 65 and 110 minutes, were audio-recorded with explicit consent, and were transcribed verbatim.

The transcripts were analyzed using Braun and Clarke's (2006; 2019) framework for reflexive thematic analysis. The analytical process followed an iterative path: (1) Familiarization involving immersive reading and re-reading of the multi-lingual transcripts; (2) Initial Coding via generating open codes for recurrent emotional markers, structural complaints, and technological interactions; (3) Thematic Construction aggregating codes into broader conceptual categories using NVivo 14 qualitative analysis software; and (4) Theoretical Mapping aligning developed themes with the concepts of Hochschild, Maslach, Tronto, and emerging socio-technical literature.

This study adhered strictly to the ethical guidelines outlined by the International Sociological Association (ISA) regarding human subjects. Given the non-clinical, qualitative nature of this sociological inquiry and the highly precarious legal status of several participants (particularly

those in informal, un-contracted live-in arrangements), formal institutional review board (IRB) approval was bypassed to maximize participant safety and prevent the creation of a physical or digital paper trail that could compromise their security. Complete, uncompromised anonymity was guaranteed to all participants. All identifying data, including names of specific facilities, families, clients, and exact municipal locations, were thoroughly redacted and replaced with alphanumeric pseudonyms like Participant H1 or Participant R3. Verbal or secure digital informed consent was obtained prior to all interviews, ensuring participants were fully aware of their right to withdraw at any stage without consequence. Furthermore, because discussing severe burnout and systemic exploitation can trigger acute psychological distress, a rigorous protocol for emotional support and immediate referral to professional counseling via partner migrant worker NGOs was maintained by the research team throughout the entire lifecycle of the project.

### 3. Empirical Findings and Qualitative Analysis

#### Theme 1: Intensive Surface Acting and Emotional Dissonance in Hyper-Isolated Settings

The data demonstrate that migrant care workers face intense emotional demands that necessitate continuous emotional regulation. This regulation is highly dependent on the structural model of care. For the 14 participants operating within the 24-hour live-in circular model, emotional labor was not confined to a distinct shift; rather, it was co-extensive with their entire spatial existence. Participants reported a near-total collapse of boundaries between private life and professional emotional display. Because they lived in the same domicile as their aging, often cognitively impaired clients, they were expected to perpetually perform compliance, cheerfulness, and deep empathy (Lutz, 2004: cf. Dyer et al., 2008; Meyer-Habighorst, 2024).

*"You can never take off the mask. My room is right next to his. If I am crying because I miss my children, and he calls me because he needs to be turned over, I have to wipe my face, smile, and walk in like nothing is wrong. If I look sad, his family thinks I am incompetent or cold. The smile is part of what they pay for."*

— Participant R4 (Romanian live-in worker, Germany)

This intensive reliance on surface acting leads directly to profound emotional dissonance. The data reveal that workers feel alienated from their own emotional responses. Over time, the structural imperative to suppress negative affect (such as anger, grief over a client's decline, or profound loneliness) leads to a state of emotional numbness. Within formal institutional settings like care homes, this manifested as a response to severe understaffing. Workers reported having

to perform emotional care at a rapid, mechanical pace, which contradicts their internal ethical conceptions of authentic care (Tronto, 1993).

*"They want us to show 'warmth' to thirty residents during a morning run. How do you perform warmth when you have exactly four minutes to wash a human being? It becomes an automated, fake kindness. It makes you feel like an actor in a bad play, completely hollowed out."*

— Participant H2 (Hungarian institutional nurse, Austria)

## **Theme 2: The Transnational Split: 'In-Absentia' Caregiver Stress and Systemic Guilt**

A critical finding of this study is that burnout among migrant care workers cannot be understood solely by analyzing host-country workplace dynamics. Instead, burnout is amplified by what this paper conceptualizes as in-absentia caregiver stress, which is the psychological strain of managing care responsibilities for left-behind family members while physically isolated abroad (Baldassar, 2007; Parreñas, 2001). Participants described an exhausting process of dual emotional regulation. They spend their days regulating their emotions for their elderly clients, and their nights regulating their emotions over digital interfaces like Viber or WhatsApp to manage crises at home without alarming their children or aging parents (cf. Deng & Pols, Karami, 2023).

*"My mother had a minor stroke back in Poland while I was on a three-week rotation in Munich. I couldn't leave. I had to coordinate her doctor appointments over the phone during my one-hour afternoon break, while spoon-feeding a woman who was screaming at me because she didn't recognize who I was. You are physically in one place giving love to a stranger, but your soul is bleeding for your own family across the border."*

— Participant P5 (Polish live-in worker, Germany)

This structural split generates acute moral distress that directly accelerates the first two dimensions of Maslach's burnout triad: emotional exhaustion and depersonalization. The continuous negotiation of this care deficit leads to systemic guilt (Baldassar, 2015; Leichsenring et al., 2022). Workers internalize the structural failures of the global care chain as personal moral failures, viewing themselves as deficient mothers or daughters because they commodify their intimacy abroad while neglecting their primary relational networks at home.

Furthermore, the data demonstrate that this transnational split is deeply stratified by the institutional setting of the worker. While formal institutional care workers can physically leave their workplace at the end of a shift to retreat to their quarters, live-in domestic workers face no such spatial boundary. Their remote caregiving obligations are negotiated during brief, stolen moments within the client's home, frequently under the watchful eye of the host family or

automated devices. Participant H5 (Hungarian live-in worker, Austria) articulated this total lack of privacy:

*"When I am texting my son in Budapest to make sure he did his homework, I have to hide my phone under the kitchen counter. If the client's daughter sees me on the phone, she makes a comment that I am not being attentive. The phone is my only connection to my life, but using it makes me feel like a thief. You are trapped between two families, fulfilling your duties to neither."*

— Participant H5 (Hungarian live-in worker, Austria)

### **Theme 3: Coping, Defensiveness, and the Transition to Depersonalization**

To survive under these emotionally exhausting conditions, migrant care workers employ various coping mechanisms. While peer support within diaspora networks and spiritual practices provide temporary psychological relief, a dominant, defensive coping strategy identified across the transcripts was strategic emotional detachment. When emotional exhaustion reaches a critical threshold, surface acting fails, and workers transition into a defensive state of depersonalization (Maslach & Jackson, 1981). They deliberately reframe their elderly clients not as relational human beings, but as a series of physical, mechanical tasks to be executed.

*"At first, you care deeply. You listen to their stories, you hold their hands when they cry. But when you are exhausted and your own kids are struggling back home, you can't afford to feel anymore. I stopped looking at my clients as grandparents. Now, she is just 'the bed in room 4' or 'the insulin injection at 8 AM.' If I don't detach myself completely, this work will destroy me."*

— Participant H7 (Hungarian institutional caregiver, Italy)

While this mechanical objectification serves as a vital psychological shield against emotional exhaustion, it functions paradoxically within the worker's broader professional identity. Caregivers who entered the profession with a strong commitment to the Ethics of Care express deep shame over their own cynicism, creating a self-reinforcing loop of psychological distress and occupational burnout. Participant P3 (Polish institutional nurse, Germany) described how this cynicism permanently damages professional self-concept:

*"You realize one day that you didn't even look the patient in the eye while changing their linens. You were just thinking about the next task on your digital tablet. That realization makes you sick to your stomach. You ask yourself, 'When did I become so cold?' You realize you have turned into a robot, and the shame of that is worse than the physical exhaustion."*

— Participant P3 (Polish institutional nurse, Germany)

#### **Theme 4: The Socio-Technical Divide: AI Interventions and the Paradox of Automated Surveillance**

When examining the introduction of AI and telenursing applications within European eldercare, the empirical data reveals a striking duality. For migrant workers operating within structured, formal pathways, such as Germany's Telecare for All integration initiative, AI-assisted scheduling, predictive health models, and automated translation modules directly mitigated the severe time anxiety associated with high-speed surface acting.

*"The AI system translates the resident's medical history from German to Polish instantly, and the automated voice notes handle the shift handovers. It saves me an hour of paperwork every evening. That is one less hour of pretending to be okay when I am exhausted; I can actually use that time to sit quietly or video-call my family."*

— Participant P2 (Polish institutional caregiver, Germany)

Conversely, within the informal, 24-hour live-in circular model, the introduction of AI monitoring systems often exacerbated emotional dissonance. When private homes are retrofitted with AI-driven ambient lifestyle sensors and predictive data collection frameworks to monitor vulnerable clients, the live-in migrant worker is inadvertently caught in a web of permanent, automated surveillance. As captured in recent critiques on the deployment of relational AI in care settings, systems trained on continuous monitoring disproportionately encode distress and performance expectations, effectively erasing the worker's private space (Valente, 2026c; see also Bauer et al., 2025; Boland, 2026; Ezzeddine, 2026; Molitor, 2025; Schwiter & Steiner, 2024; Zuiderveen Borgesius, 2024).

*"The family installed an AI sensor network that monitors if the client gets out of bed or falls. But it also monitors how long it takes me to respond to an alert. If it takes me six minutes instead of three because I was in the shower, my phone rings with an automated warning. The technology was supposed to help me, but now I feel like a machine being tracked by an invisible supervisor. It makes the isolation twice as intense."*

— Participant H4 (Hungarian live-in worker, Austria)

#### **4. Comparative and Policy Analysis (Discussion)**

The findings of this study expand contemporary understandings of Global Care Chains by illustrating how digital infrastructures alter the emotional and psychological boundaries of transnational migration. While foundational sociological literature has thoroughly documented the structural extraction of migrant intimacy (Hochschild, 2000; Parreñas, 2001; Lutz &

Palenga-Möllenbeck, 2012), our data demonstrate that the contemporary care economy is characterized by a unique socio-technical compression of emotional space.

As conceptualized in our Dual Burden Transnational Cycle, the psychological strain of cross-border care work is defined by an unceasing, synchronized loop of domestic and foreign emotional demands. Rather than experiencing these spheres as chronologically or spatially separated, digital interfaces force caregivers to perform localized emotional labor for a Western European client while simultaneously engaging in remote, high-stakes crisis management for their families at home. This structural split creates what we term in-absentia caregiver stress, driving an accelerated transition through Maslach's burnout triad. When emotional exhaustion peaks, the caregiver adopts strategic depersonalization as a vital psychological defense mechanism, detaching relationally from the client to survive the compounding moral distress and systemic guilt.

Furthermore, this study contributes a novel dimension to the Ethics of Care (Tronto, 1993, 2013) by examining how the delegation of monitoring and administrative tasks to artificial intelligence redistributes power within the care relationship. In institutional frameworks, AI has the capacity to preserve the moral dimension of attentiveness by absorbing non-relational documentation workloads. However, in private live-in configurations, ambient AI systems decouple competence from human relationality. By tracking response latencies and algorithmic parameters, these technologies convert care from a flexible, responsive human interaction into a hyper-audited, quantified metric of efficiency. Consequently, the introduction of un-governed AI technologies does not alleviate the European care crisis; rather, it formalizes the exploitation of migrant labor under the guise of technological optimization.

By comparing these observations to classical literature, it becomes clear that the contemporary migration corridor differs fundamentally from earlier decades. In the early 2000s, care drain was defined by an absolute, painful severance of immediate connection, where communication was restricted to expensive, periodic calling cards (Lutz, 2004). Today, the ubiquitous integration of ambient smart devices and instantaneous messaging platforms means the home country is never truly left behind, and the host workplace is never fully insulated. The contemporary care worker does not suffer from a lack of connection, but from an aggressive, technologically driven emotional saturation that leaves no corner of her psyche uncommodified.

#### 4.1. Cross-Model Comparison Matrix

**Table N°2: Cross-Model Comparison Matrix**

Analytical Dimension	Circular/Live-In (Private)	Model	Institutional Model (Care Homes)
<b>Primary Regulation</b>	Unregulated Frameworks	Informal	Formal Public / Private Frameworks
<b>Spatial Boundaries</b>	Non-existent; habitation with client	full co-	Clear division of work and home spaces
<b>Dominant Form of Labor</b>	Continuous deep acting due to visibility	or surface	High-speed, fragmented surface acting
<b>Burnout Pathway</b>	Isolation, spatial entrapment, rapid exhaustion		Depersonalization from extreme time pressures
<b>Vulnerability</b>	Total separation from host community ties		Higher integration into local networks/unions
<b>AI Interface</b>	Passive/Ambient Monitoring: tracking	Automated	Active/Administrative AI: Digital scribes, NLP
<b>Socio-Technical Risk</b>	Surveillance; lacks upskilling access	technical	Management pushing for higher speed margins

*Source: Synthesized by authors from qualitative analysis data (2026)*

#### 4.2. Methodological Limitations and Future Directions

While this study provides vital, empirically grounded insights into the socio-technical realities of contemporary European care migration, several methodological limitations must be acknowledged. First, the sample size (N = 24) is drawn exclusively from three Central and Eastern European national cohorts (Hungary, Romania, and Poland) operating within specific Western European destination countries (Germany, Austria, and Italy). Consequently, the findings cannot be generalized to represent the lived experiences of migrant care workers arriving from the Global South, who navigate fundamentally different legal frameworks, visa precarities, and structural racial dynamics.

Second, the qualitative, cross-sectional design captures the participants' experiences at a specific socio-technical historical marker (2026), following the widespread implementation of the EU AI Act and regional digital health directives. It does not account for the longitudinal trajectories of burnout and adaptation as these AI tools mature. Future research should utilize

mixed-method longitudinal designs to quantify the precise impact of algorithmic surveillance on caregiver turnover rates. Furthermore, comparative studies are urgently needed to analyze how different national legal frameworks within the Schengen area mitigate or exacerbate the socio-technical vulnerabilities of 24-hour live-in care arrangements.

### 4.3. Synthesis of Empirical Themes

To fully address the reviewer's suggestion to include more summary tables, Table N°3 summarizes your qualitative findings using exclusively the original wording, themes, and quotes from your text.

**Table N°3: Summary Matrix of Emergent Themes and Fieldwork Evidence**

Qualitative Theme	Key Empirical Core	Original Participant Quotation Evidence
<b>Theme 1: Intensive Surface Acting</b>	Emotional labor co-extensive with entire spatial existence; total collapse of boundaries.	"You can never take off the mask. My room is right next to his... The smile is part of what they pay for." — Participant R4
<b>Theme 2: The Transnational Split</b>	In-absentia caregiver stress; managing home crises over digital interfaces.	"Your soul is bleeding for your own family across the border." — Participant P5
<b>Theme 3: Transition to Depersonalization</b>	Strategic detachment used as a dominant, defensive coping strategy.	"I stopped looking at my clients as grandparents. Now, she is just 'the bed in room 4' or 'the insulin injection at 8 AM.'" — Participant H7
<b>Theme 4: The Socio-Technical Divide</b>	Ambient lifestyle sensors leading to a web of permanent, automated surveillance.	"The technology was supposed to help me, but now I feel like a machine being tracked by an invisible supervisor." — Participant H4

*Source: Synthesized by authors from qualitative analysis data (2026)*

## Conclusion

The findings of this empirical study illustrate that Europe's long-term care stability is heavily sustained by the systematic exploitation of the emotional and psychological reserves of migrant workers. By exporting their care deficits to less affluent neighboring nations, wealthier European countries have created a highly gendered market for intimacy (Lutz & Palenga-Möllenberg, 2012). Here, emotional labor is commercialized without adequate structural protection. The integration of artificial intelligence within this landscape introduces a critical socio-technical duality: while automated administrative tools provide an essential cognitive buffer for formal institutional caregivers, ambient home-monitoring technologies often result in increased surveillance and spatial entrapment for informal live-in workers. To address these systemic and technical vulnerabilities, and to construct an ethical socio-technical care economy across Europe, the following policy interventions are required:

**Democratic AI Governance and Care Attentiveness:** In alignment with Articles 9, 15, and 17 of the EU AI Act (2024), long-term care institutions deploying predictive or automated AI tools must implement rigorous human-in-the-loop risk management strategies (Valente, 2026c). AI should not be weaponized by management to intensify work margins, such as forcing a caregiver to see more residents per shift due to automated time-savings. Instead, the time recovered via AI documentation tools must be legally protected and redirected toward relational, unhurried human care.

**Formalization and Regulation of the Live-In Sector:** European labor laws must be systematically applied to the private live-in care sector (Anderson, 2007). This requires mandating strict structural boundaries around working hours, ensuring mandatory, uninterrupted daily and weekly rest periods, and legally separating residential arrangements from off-duty time, especially when ambient AI systems are active in the household.

**Targeted AI Literacy and Linguistic Upskilling Pathways:** To prevent the widening of the socio-technical divide, European cross-border care frameworks must mandate funded, accessible digital qualification pathways, modeled after the Eldicare 2.0 blueprint, that integrate technical literacy with language training specifically tailored for non-native migrant care populations (ESN, 2026).

**Mitigating the Transnational Care Deficit:** Policymakers must view care as a cross-border public good. This involves introducing flexible, paid transnational family care leave policies that allow migrant workers to return to their home countries during family health crises without risking their legal employment or residency status in the host nation (Baldassar, 2007).

Ultimately, Europe cannot sustainably or ethically resolve its demographic aging crisis through the unmitigated depletion of migrant workforce welfare or the uncritical delegation of care to automated systems. True systemic resilience requires moving away from the invisible extraction of cross-border emotional labor and transitioning toward a European socio-technical care model that respects, protects, and values the human dignity of both the caregiver and the care receiver.

## References

- Abraham, R. (1999). The impact of emotional dissonance on organizational outcomes: The mediating role of job satisfaction. *The Journal of Psychology*, 133(4), 441–455.
- Anderson, B. (2007). A very private business: Exploring the demand for migrant domestic workers. *European Journal of Women's Studies*, 14(3), 247–264.
- Baldassar, L. (2007). Transnational families and the provision of care: The perspective of left-behind kin. *Global Networks*, 7(2), 191–209.
- Baldassar, L. (2015). Guilty feelings and the guilt trip: Emotions and motivation in migration and transnational caregiving. *Emotion, Space and Society*, 16, 81–89.
- Baldassar, L., & Merla, L. (Eds.). (2014). *Transnational families, migration and the politics of care: Intersecting expectations and braiding obligations*. Routledge.
- Bauer, L., Ferri, F., & Scharfe, J. (2025). Frontline care vulnerabilities: Data security architecture and digital literacy in home care services. *International Journal of Care and Caring*, 9(2), 145–162.
- Blackman, T., Sportel, T. S., & Walton-Roberts, M. (2022). Placing care work in the future of work discourse. *Glocalism: Journal of Culture, Politics and Innovation*, 2022(3). <https://doi.org/10.12893/gjcpi.2022.3.6>
- Boland, C. (2026). Digitalization and migration: Rethinking socio-economic inclusions and exclusions. *Social Inclusion*, 14(1), 88–101.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Deng, J., & Pols, J. (2025). Tele-care and the distance of intimacy: How digital interfaces reconfigure the ethics of care for migrant workers. *Bioethics*, 39(4), 312–325.
- Dyer, S., McDowell, L., & Batnitzky, A. (2008). Emotional labour in the care sector: The influence of gender, ethnicity, and nationality on frontline care delivery. *Gender, Place & Culture*, 15(3), 283–303.
- Eurocarers. (2025). *Integrating Artificial Intelligence within Informal Care and Long-Term Care: Enhancing Opportunities while Mitigating Threats*. Eurocarers Policy Briefing.

- European Parliament and Council. (2024). Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act). OJ L, 2024/1689.
- European Social Network [ESN]. (2026). Is Europe's care workforce prepared for an ageing future? The Eldicare 2.0 Blueprint Report. European Social Network Publications.
- Ezzeddine, P. (2026). Live-in care on trial: The failed promise of solidarity in European care governance. *Social Analysis*, 70(1), 44–65.
- Fisher, B., & Tronto, J. C. (1990). Toward a feminist theory of caring. In E. Abel & M. Nelson (Eds.), *Circles of care: Work and identity in women's lives* (pp. 35–62). State University of New York Press.
- Garcia, M., & Kowalski, A. (2025). Scenario-based learning and peer-supported practice: Training design for low-qualified migrant workforces. *European Journal of Vocational Training*, 68(1), 112–129.
- Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. University of California Press.
- Hochschild, A. R. (2000). Global care chains and emotional surplus value. In W. Hutton & A. Giddens (Eds.), *On the edge: Living with global capitalism* (pp. 130–146). Jonathan Cape.
- Karami, R. (2023). Unveiling the essence of migrant care workers' online video narratives: An interpretive phenomenological analysis. *Digital Studies / Le champ numérique*, 13(1). <https://doi.org/10.16995/dscn.8169>
- King-Dejardin, A. (2019). The domestic work sector in Europe: Regulatory frameworks, emotional strain, and market dynamics. International Labour Organization (ILO) Report Series.
- Kofman, E. (2014). Towards a gendered evaluation of (inter)national stratifications of care. *International Migration*, 52(3), 120–133.
- Leichsenring, K., Kadi, S., & Simmons, C. (2022). Making the invisible visible: The pandemic and migrant care work in long-term care. *Social Sciences*, 11(8), 326. <https://doi.org/10.3390/socsci11080326>
- Lutz, H. (2004). Life in the twilight zone: Migration, trans-nationality and gender in the domestic work sector in Germany. *Journal of Contemporary European Studies*, 12(1), 47–55.
- Lutz, H., & Palenga-Möllnbeck, E. (2010). Care work migration in Germany: Regulating the unregulatable. *International Migration*, 48(1), 35–53.

- Lutz, H., & Palenga-Möllenbeck, E. (2012). Care workers, care drain, and care chains: Reflections on care, migration, and citizenship. *Social Politics: International Studies in Gender, State & Society*, 19(1), 15–37.
- Maslach, C. (1993). Burnout: A multidimensional perspective. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 19–32). Taylor & Francis.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, 2(2), 99–113.
- Meyer-Habighorst, C. (2024). ‘This big shadow that we need to turn into light’ – How labour intermediaries moralise commodified domestic care work. *Ethnic and Racial Studies*, 47(11), 2301–2322.
- Molitor, F. (2025). Work arrangements in digitally mediated care and domestic work. *Journal of European Social Policy*, 35(2), 174–189.
- OECD. (2026). *AI in healthcare: Progress in Implementing the European Union Coordinated Plan on Artificial Intelligence*. OECD Publishing.
- Parreñas, R. S. (2001). *Servants of globalization: Women, migration, and domestic work*. Stanford University Press.
- Schwiter, K., & Steiner, O. (2024). Geographies of digitalized care: Platform capitalism, ambient sensors, and the monitoring of transnational live-in care. *Antipode*, 56(2), 612–634.
- Tronto, J. C. (1993). *Moral boundaries: A political argument for an ethic of care*. Routledge.
- Tronto, J. C. (2013). *Caring democracy: Markets, equality, and justice*. New York University Press.
- Ulianskaite, I. (2025). Digital skills in care: What it means for adult learning. *European Journal for Research on the Education and Learning of Adults*, 16(3), 289–306.
- Van Hooren, F. (2012). Variations of migrant care work in Europe: Explaining the relative size of care markets in Italy, Germany, and the United Kingdom. *European Journal of Social Policy*, 22(2), 133–147.
- Valente, M. (2026c). The Care of the Carer: Relational AI encoding and cognitive distortion in social care networks. *Futurium - European Applied AI Alliance*, Article e0849.
- Wright, D., & Schultz, C. (2023). Natural Language Processing and ambient monitoring in elderly care: Alleviating administrative burdens or intensifying digital Taylorism? *New Technology, Work and Employment*, 38(1), 89–112.

Zuiderveen Borgesius, F. (2024). Automated surveillance in workplace environments under the European Union AI Act: Implications for precarious labor. *European Labour Law Journal*, 15(2), 201–219.