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Intergenerational Solidarity and Economic Resilience in Times of Crisis: Evidence from Moroccan Families

Fouad Annaki¹ , Yassine Annaki² , Saadeddine Igamane³  and Abdellah Nouib⁴ 

¹Faculty of Letters and Human Sciences Dhar El Mahraz (FLDM), Université Sidi Mohamed Ben Abdellah (USMBA), FEZ, Morocco, ²Faculty of Human and Social Sciences (FHSS), Ibn Tofail University (UIT), Kenitra, Morocco, ³Faculty of Letters and Human Sciences –Saïs, Université Sidi Mohamed Ben Abdellah, Morocco and ⁴Faculty of Legal, Economic and Social Sciences of Kelaa des Sraghna, Cadi Ayyad University, Morocco

Corresponding author: Fouad Annaki; Email: fouad.annaki@usmba.ac.ma

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Abstract

This study examines how Moroccan households mobilize intergenerational solidarity during recurring economic shocks (COVID-19 and inflation) and argues that family life constitutes a key site of informal Environmental and Sustainability Education (ESE), where everyday routines cultivate learning about resource management, care and collective problem-solving. Addressing a gap in ESE/ESD research on crisis-time family learning, we analyse how informal support both enables and constrains sustainability-oriented action competence beyond schooling. The study adopts a qualitative design combining 65 semi-structured interviews, ethnographic observations and household document analysis across 28 urban and rural families (Fès–Meknès region). Data were analysed through a grounded theory approach and interpreted using an integrated lens of family resilience, capability theory, gender analysis and action competence (critical understanding, participatory/practical skills and individual/collective efficacy). Findings reveal three dominant solidarity configurations: (1) extended parental support to adult children, (2) reciprocal cohabitation shaped by gendered expectations and (3) remittance transfers from young migrants to older relatives. These mechanisms function as informal pedagogies of sustainability (repair–reuse routines, budgeting trade-offs, neighbourhood mutual-aid governance) that strengthen household resilience, yet also generate emotional fatigue, uneven caregiving burdens and gendered inequalities. We show how solidarity operates as both social protection and a pathway for uneven capability conversion, along gender lines. The paper concludes with implications for ESE/ESD actors and policy makers to support family-based learning ecologies while advancing care justice and equitable role redistribution. We propose “intergenerational solidarity resilience” as a concept for analysing how informal solidarities generate – and unevenly distribute – capabilities for sustainability-oriented action.

Keywords: Family resilience; informal care; intergenerational solidarity; Morocco; social sustainability

Introduction

Across the Global South, families play a pivotal – yet ambivalent – role in buffering socio-economic shocks while simultaneously reproducing inequalities (Bengtson, 2001; Walsh, 2016). In Morocco, recurrent crises – most notably the COVID-19 pandemic and subsequent inflationary pressures – have intensified reliance on intergenerational solidarity and informal support systems. For Environmental and Sustainability Education (ESE), these crisis-time solidarities are not only social safety nets but also everyday learning environments where resource management, care,

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frugality and collective problem-solving are learned through practice rather than formal instruction. In contexts where public welfare provision remains limited, households often become the primary infrastructure of social protection, shaping how people adapt to scarcity and uncertainty (Rachik, 2012; Haut-Commissariat au Plan (HCP), 2020; Annaki, Annaki, Igamane & Nouib, 2025). Beyond their socio-economic function, intergenerational solidarities are cultural and educational processes (Ballantyne, Fien & Packer 2001; Payne, 2005). They transmit norms, dispositions and practical know-how that influence how families interpret hardship, allocate resources and organize care. From an ESE/ESD perspective, this foregrounds the family as a site of “everyday pedagogy,” where sustainability-related learning is embedded in daily routines such as repair and reuse, budgeting trade-offs and neighbourhood mutual aid (Jensen & Schnack, 1997; Payne, 2005). These mundane practices often cultivate forms of responsibility and foresight that resonate with sustainability values, even when they are not explicitly framed as “environmental” actions.

Although ESE/ESD scholarship has increasingly expanded beyond classroom-centred models, much of the existing research still focuses on school – home linkages or programme-based interventions (Ballantyne *et al.*, 2001; Payne, 2005). Consequently, we know far less about how families themselves generate sustainability learning ecologies under conditions of socio-economic shock – particularly in Global South contexts where crises are recurrent rather than exceptional. This article addresses this gap by examining how intergenerational solidarity operates as a set of situated learning processes that may foster – yet unevenly distribute – capabilities for sustainability-oriented action.

The Moroccan context offers a particularly revealing lens. “Why Morocco, and why now?” Morocco represents a middle-income country facing rising living costs, youth unemployment and uneven welfare coverage, where families often compensate for institutional gaps (Rachik, 2012; Annaki, Annaki, Igamane & Nouib, 2025). Recent crises have made visible how households reorganize support across generations, mobilizing financial transfers, co-residence arrangements and care networks. These dynamics provide a valuable case for international ESE/ESD debates because they show how sustainability learning is shaped not by abundance and choice, but by constraint, obligation and crisis-driven adaptation – conditions shared by many societies in the Global South and increasingly relevant elsewhere.

This study investigates how Moroccan families mobilize intergenerational solidarity to navigate recurring economic crises, positioning the household as a key site of informal ESE where everyday routines foster learning about resource stewardship, care and mutual aid. In this article, “sustainability-oriented action competence” refers to the capacity to develop critical understanding, participatory and practical skills and individual or collective efficacy for informed socio-ecological action in everyday life – not merely pro-environmental behaviour. This understanding follows the action competence tradition in environmental education, which emphasizes agency, critical reflection and collective engagement rather than individualized behaviour change.

Environmental action is conceptualized as situated and collective practices through which families manage resources, adapt to constraints and sustain their livelihoods. These everyday practices function as informal learning processes that foster sustainability-oriented action competence, understood as the ability to interpret challenges, exercise agency and engage in responsible and adaptive resource management (Jensen & Schnack, 1997; Wals, 2015; UNESCO, 2017).

Empirically, the study draws on a qualitative design combining 65 semi-structured interviews, ethnographic observations and household document analysis across 28 urban and rural families in the Fès–Meknès region and neighbouring provinces. Analytically, the study mobilizes a multidimensional framework intersecting family resilience, capability theory, gender analysis and action competence. This integrative lens allows us to examine not only how solidarities function, but also how they enable or constrain people’s real opportunities to act.

Three dominant configurations of solidarity emerge: (1) extended parental support to adult children, (2) reciprocal cohabitation shaped by gendered expectations and (3) financial transfers from young migrants to older relatives.

These mechanisms strengthen household resilience and often operate as informal pedagogies of sustainability. Repair–reuse routines, careful budgeting and neighbourhood mutual-aid arrangements cultivate practical knowledge and collective problem-solving skills. However, these solidarities also produce emotional fatigue, unequal caregiving burdens and reinforce gendered inequalities – especially for women, who disproportionately shoulder unpaid care work.

Building on capability theory, we interpret these tensions through the notion of “conversion factors,” that is, the social and gendered conditions that determine whether available resources and solidarities can be translated into real freedoms and action possibilities. In other words, solidarity does not automatically lead to empowerment; it can also reproduce unequal responsibilities and limited agency.

To clarify the study’s contribution for an international ESE/ESD readership, the article addresses three questions:

RQ1. How are intergenerational solidarity practices organized and justified within Moroccan households under recurring economic shocks?

RQ2. Through what everyday routines and interactions do these practices function as informal pedagogies of sustainability?

RQ3. How do these solidarities simultaneously enable and constrain sustainability-oriented action competence, particularly through gendered divisions of care and unequal conversion factors?

These questions move the analysis beyond a descriptive account of family support towards a deeper examination of learning, agency and justice in sustainability contexts.

The article makes three contributions. First, it bridges sociology of the family and social policy with ESE by theorizing intergenerational solidarity as an educational infrastructure for sustainability embedded in everyday practices of care and resource management. Second, it provides qualitative evidence from Morocco on how sustainability learning is constituted under crisis conditions, specifying both enabling mechanisms and structural limits. Third, it extends the action competence approach to family and community learning ecologies by showing how informal solidarities can cultivate capacities for informed, collective action while cautioning against romanticizing resilience when it relies on unpaid and unequal care.

Taken together, these contributions offer a transferable analytic vocabulary for ESE/ESD research and practice seeking to engage informal learning ecologies while advancing sustainability justice.

Theoretical framework

Understanding the mechanisms of economic resilience within Moroccan families during periods of crisis requires a solid theoretical anchoring at the intersection of several sociological traditions. This framework mobilizes four complementary axes: the theory of family resilience, intergenerational solidarities, the capabilities approach and a gendered reading of family dynamics.

This cross-fertilization makes it possible to apprehend both the internal logics of families and the structural constraints that traverse them. The household is conceptualized as an informal learning ecology in which everyday routines shape sustainability-related meanings, practical skills and capacities for collective problem-solving (Payne, 2005).

However, research in ESE has more often examined family learning through school–home linkages or programme-based interventions than through crisis-driven, household-led solidarities. This study addresses that gap by theorizing intergenerational solidarity as a practice-based

learning infrastructure that can enable – yet unevenly distribute – capabilities and action competence under conditions of socio-economic stress (Payne, 2005).

Despite growing recognition of homes as sites of informal sustainability learning, the mechanisms through which crisis-time solidarities generate, constrain, or redistribute action competence remain under-theorized – especially in contexts where families compensate for fragmented welfare provision (Payne, 2005).

Morocco provides a theoretically relevant case because family-based support constitutes a central layer of everyday social protection amid recurrent shocks, while the mechanisms analysed here (solidarity flows, capability conversion and gendered care burdens) are transferable to other socio-economically fragile settings where household learning ecologies shape sustainability-oriented agency.

Family resilience: a systemic approach

Family resilience is defined as the capacity of a family system to cope with adversity, to adjust and to regain a functional balance despite disruptions (Walsh, 2016). This approach goes beyond individual adaptation and emphasizes collective processes, interactions among members and the ways in which families construct meaning when facing traumatic events or economic pressures (Walsh, 2016).

In the Moroccan context – where access to social protection remains uneven by occupational status and geography (rural/urban) – family resilience often relies on self-organization strategies. It is observed in households' capacity to absorb shocks (job loss, illness, price hikes), to maintain internal cohesion under strain and to reconfigure their organization temporarily or durably (multigenerational co-residence, redefinition of economic roles) (Rachik, 2012; Kadiri, 2023; Haut-Commissariat au Plan (HCP), 2020).

This perspective helps transcend the dichotomy between fragility and resilience by integrating discrete, often invisible adjustments through which families ensure continuity. These adjustments can also be understood as practice-based learning processes, insofar as households develop repertoires for managing scarcity – repair and reuse routines, budgeting trade-offs and negotiated rules for resource sharing – that stabilize everyday life and orient action under constraint (Payne, 2005).

Intergenerational solidarities: between social norm and economic resource

Intergenerational solidarities refer to relationships of help and exchange between generations within the same family. According to the typology of Bengtson and Roberts (1991), taken up by Lowenstein (2007), these solidarities are articulated around six dimensions: associational (frequency of contacts), affectual (emotional ties), consensual (value agreement), functional (material support), normative (sense of obligation) and structural (actual opportunities for interaction) (Bengtson & Roberts, 1991; Bengtson, 2001; Lowenstein, 2007; Silverstein & Bengtson, 1997).

In Morocco, these forms of solidarity are framed by strong cultural and religious injunctions that valorize assistance to elderly parents and shared family responsibility. However, the practical implementation of these principles varies across social contexts: dual-earner urban families, faced with time and housing constraints, cannot always meet support obligations, generating tensions between norms and effective capacities. Intergenerational exchanges are not limited to downward help (from parents to children); in an increasing number of cases, precarious young adults depend on the support of elders, notably through pensions or access to the family home.

This reconfiguration of solidarity flows, reinforced by health and economic crises, reveals a dual logic: on the one hand, families act as social shock absorbers in the absence of an effective welfare state; on the other hand, informal arrangements can conceal structural inequalities and

overburden certain categories of members, particularly women. At the same time, intergenerational relations function as channels through which sustainability-related meanings and practices circulate, mediated by family communication patterns and the everyday organization of domestic life (Ballantyne et al., 2001; Payne, 2005).

This perspective also helps distinguish solidarity as voluntary support from solidarity as constrained obligation, a distinction that becomes empirically salient when normative expectations exceed household capacities and are unevenly absorbed through gendered care arrangements.

The capabilities approach and family vulnerabilities

The capabilities approach, notably articulated by Amartya Sen (1999), provides a framework for the analysis of vulnerability not merely as a shortage of resources but as a limitation of genuine freedoms to engage in valued actions and ways of living (Sen, 1999). Viewed from this perspective, intergenerational solidarities emerge as pivotal mechanisms that can serve to restore and enhance threatened capabilities, such as access to education, decent housing conditions, comprehensive healthcare and personal dignity.

Within the context of Moroccan families, it becomes evident that these capabilities are heavily influenced by resources available to the family unit. For instance, a family that possesses an inherited home, a modest but stable pension, or a well-structured social network is typically better positioned to provide flexibility during times of crisis and uncertainty. In stark contrast, families that lack substantial assets and secure employment opportunities often find their capabilities drastically diminished, leading them to experience a constrained set of choices that may include dropping out of school, resorting to informal employment, or choosing to migrate either internally within the country or internationally across borders.

Intergenerational solidarity operates both as a conversion mechanism that transforms resources into actionable freedoms and as a necessity in contexts of limited institutional protection. This ambivalence means that the same family strategies can open opportunities while also reinforcing constraints as crises persist.

Following Sen's distinction between resources and real freedoms, this paper emphasizes "conversion factors" – social, cultural and gendered conditions that determine whether solidarity can be translated into effective opportunities to learn, participate and act, rather than remaining a compensatory burden (Sen, 1999).

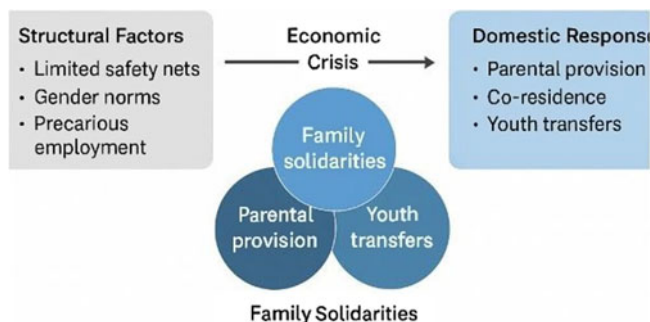
In this framing, action competence is treated as a capability outcome: solidarity may expand (or restrict) the real freedom to develop critical understanding, practical/participatory skills and collective efficacy for informed action, depending on the conversion factors that structure time, voice and responsibility within households.

A gendered reading of family responsibilities

An in-depth analysis of family solidarities cannot overlook the pervasive gender inequalities that significantly influence and traverse these familial relationships and structures. Numerous studies, including the works of Preoteasa et al. (2018) and Chafi (2025), reveal that women disproportionately shoulder a significant burden within support mechanisms, including childcare, elder care, management of relational tensions and maintenance of family ties.

This over-responsibilization is exacerbated during periods of crisis, when women frequently find themselves juggling precarious employment, domestic tasks and emotional support. Research on unpaid care consistently shows that women bear disproportionate care workloads, with implications for time poverty, participation and wellbeing (International Labour Organization, 2018).

Figure 1. Mobilization of family solidarities in response to economic crisis families as everyday learning ecologies: linking solidarity to action competence.



In the specific context of Moroccan families, this dynamic is deeply entrenched within a gendered division of labour that is both historically rooted and subject to transformation over time. Rising male unemployment, increased access to paid work for women and the diffusion of egalitarian norms generate new tensions while also facilitating negotiations regarding roles and responsibilities. Some women emerge as significant economic actors within these familial dynamics, participating in logics of substitution or complementarity while remaining subject to expectations of emotional and domestic availability.

An intersectional approach considering gender, class and geographical territory illuminates differentiated inequalities across family configurations. For example, the experiences and constraints faced by a single mother in urban Casablanca differ markedly from those encountered by the youngest daughter in a rural family located in the Middle Atlas.

Overall, this theoretical framework provides a nuanced and pluralistic reading of intergenerational solidarity and family resilience in contemporary Morocco. It underscores the complexity of family dynamics and challenges a simplistic and homogeneous understanding of “the family” as a universally protective entity. It also clarifies why resilience cannot be read as uniformly empowering: the same solidarity practices that protect households may reproduce patriarchal arrangements and unequal conversion factors that constrain women’s agency and voice in everyday decision-making.

Family resilience captures how households reorganize and adapt under shock (Walsh, 2016). Intergenerational solidarity specifies the relational channels through which resources and obligations are redistributed across generations (Bengtson & Roberts, 1991; Lowenstein, 2007). The capabilities approach clarifies how these resources translate into real freedoms via conversion factors (Sen, 1999). Gender analysis then shows how unequal care responsibilities systematically shape these conversion processes.

Together, these lenses specify how crisis-time solidarities operate simultaneously as protection mechanisms and informal learning processes that condition sustainability-oriented agency.

In other words, the same relational arrangements that sustain households during crises may also reproduce structural inequalities by assigning unequal costs of care and coordination – thereby shaping whose knowledge, agency and participation become possible in everyday decision-making and sustainability-oriented practice.

To synthesize the theoretical framework and clarify the interrelations between family resilience, intergenerational solidarity, capability conversion and gendered dynamics, the conceptual model presented in Figure 1 provides an integrative representation of these mechanisms.

Building on the previous framework, the household can be approached as a learning ecology in which sustainability-oriented understandings and practices are shaped through routine activity and intergenerational interaction. Homes have been theorized as distinctive educational sites

where environmental meanings are negotiated and transmitted through the “doing” of everyday life (Payne, 2005). Evidence on intergenerational influence further shows that family communication patterns can extend environmental learning beyond school boundaries and shape discussion and action in everyday contexts (Ballantyne et al., 2001).

Within environmental education, the action competence tradition provides a robust conceptual bridge between informal learning and sustainability-oriented agency. Action competence emphasizes learners’ capacity to develop critical understanding, practical/participatory skills and a sense of individual and collective efficacy for informed action (Jensen & Schnack, 1997; Mogensen & Schnack, 2010).

In AJEE, this implies moving beyond “behavioural compliance” towards action as reflective, participatory practice learned about, through and from engagement with real issues (Birdsall, 2010). More recently, AJEE research has operationalized self-perceived action competence for sustainability through validated dimensions (e.g., perceived action possibilities, confidence in influence and willingness to act), offering measurement-sensitive language consistent with capability conversion and efficacy (Nyberg et al., 2025).

Together, these contributions specify three analytical dimensions: (a) what is learned in crisis-time solidarities (resource stewardship, care coordination, mutual-aid governance), (b) how it is learned (intergenerational modelling, negotiated routines, shared task completion) and (c) why learning translates into uneven action possibilities when gendered conversion factors distribute time, responsibility and voice asymmetrically.

Concretely, sustainability-oriented action in this context can include household- and community-level practices such as collective resource management (water/energy saving and prioritization), repair-reuse and waste reduction routines and neighbourhood mutual-aid arrangements that support vulnerable members while organizing shared responsibilities and decision-making under constraint.

Methodology

Research design and paradigm

We adopted a qualitative design with a constructivist grounded theory orientation to theorize how Moroccan families mobilize intergenerational solidarity under conditions of crisis. This approach privileges participants’ meanings and actions, supports iterative theorizing and allows concepts to emerge inductively while remaining sensitized by prior work on family resilience, capabilities, gendered care and intergenerational solidarity (Charmaz, 2014; Corbin & Strauss, 2015). The analytical objective was explanatory, focusing on mechanisms and relational processes rather than estimating prevalence or effect sizes.

Setting and participants

Fieldwork was conducted in urban and rural localities of the Fès–Meknès region (e.g., Fès, Meknès, Taza, Taounate). The corpus comprises 65 semi-structured interviews with members of 28 families selected to vary household composition (nuclear/multigenerational), housing status, sources of employment/income and care arrangements. Ethnographic observations and the analysis of household documents (e.g., bills, remittance proofs) complemented interviews. A descriptive table (Appendix A) summarizes participant characteristics (age bands, gender, household structure, locality, employment/income situation); anonymized identifiers used in the text refer to this table.

For analytic contrast, households were positioned along a continuum from relatively stabilized solidarity arrangements (e.g., sustained remittances, stable pension income, durable co-residence rules, reliable mutual aid) to strained arrangements (e.g., disrupted remittance flows, escalating

debt, unresolved co-residence conflict, care overload). This positioning served comparative analysis and did not constitute a normative classification.

Selection of participants

We used purposive maximum-variation sampling to capture heterogeneity (gender, age, household structure, urban/rural locality). As analysis progressed, theoretical participant selection added cases that could refine emergent categories (Charmaz, 2014). Inclusion criteria required residence in the region and recent experience (since the COVID-19 pandemic or subsequent inflationary shocks) of intra-family help, transfers, or co-residence. Recruitment combined community contacts and snowballing. To mitigate gatekeeping/selection bias, we actively searched for negative or disconfirming cases (e.g., households declining support or experiencing breakdown of remittance arrangements).

To reduce gatekeeping effects and selection bias, recruitment pathways were diversified beyond family networks by including community intermediaries not embedded in participants' kinship ties and by actively seeking contrastive cases (e.g., refused support, breakdown of remittance arrangements, co-residence conflict).

Recruitment ceased once theoretical saturation was met – that is, additional interviews no longer added substantive properties to central categories and inter-category relations were sufficiently dense to sustain the emerging model. Operationally, sufficiency was assessed via weekly memo audits; after interview 65, no new properties emerged for categories “extended parental provision,” “reciprocal co-residence,” and “youth-to-elder transfers,” with stable cross-cutting links (urban/rural; gender/age).

Instruments and data collection procedures

A flexible interview guide covered: (a) recent socio-economic stressors; (b) forms and directions of support (financial, co-residence, care); (c) decision-making and negotiations; (d) perceived benefits and burdens; (e) domestic routines relevant to resource stewardship (saving, repair/reuse); and (f) intergenerational learning and role modelling. Interviews, conducted in Arabic and/or French, lasted 50–90 minutes and were audio-recorded with consent. Sessions took place at participants' homes or in neutral venues, agreed to ensure confidentiality and comfort. Fieldnotes and analytic memos documented contextual details and early analytical leads. Transcripts were produced in the source language; when excerpts are quoted in English or French, we used an anchored translation procedure with cross-checking by a bilingual team member (targeted back-translation for analytic passages). Two trained interviewers (one woman, one man) conducted the fieldwork after piloting the guide and harmonizing protocols; no prior relationships with participants were maintained.

Participant observation was conducted through situational observations during interview encounters and, where feasible, brief repeat visits that focused on routine practices (e.g., budgeting moments, care coordination, resource-use decisions) and interactional dynamics. Observational data were recorded in structured fieldnotes (setting, actors, actions, analytic reflections) and incorporated into analysis as a distinct data stream.

Observations were conducted throughout the fieldwork period across interview settings (homes and agreed neutral venues), with repeat visits undertaken when feasible to document routine practices *in situ*.

Household documents were used both as contextual evidence and as interview prompts to support recall and triangulate timelines of shocks, expenditures and transfers.

Data analysis

Analysis proceeded in iterative cycles consistent with grounded theory: line-by-line initial coding to remain close to participants' language and actions; focused coding to elaborate higher-order categories; and constant comparison across interviews, families and contexts (urban/rural; gender/age positions) to specify conditions, strategies and consequences. Memo writing supported category development and theoretical integration; memos and decision logs form an audit trail (Charmaz, 2014; Corbin & Strauss, 2015; Miles, Huberman & Saldaña 2014; Saldaña, 2021).

Analyses were conducted in NVivo; successive codebook versions were archived (version log, date, decision). Double-coding (~10–15% of the corpus) enabled team discussion of discrepancies and stabilization of operational definitions. Analyses were performed in NVivo (version 14); matrix queries were used to compare code distributions by gender and locality. Codebook versions and rationales for changes were archived in the audit trail.

Observation fieldnotes and document-related memos were coded using the evolving codebook and compared with interview-derived categories to identify convergences and tensions.

Analytical operationalization: mapping codes to action-competence dimensions (ESE)

To make the analytic frame explicit and align family processes with ESE, we mapped emergent codes to three core dimensions of action competence – critical understanding of issues, practical/participatory skills and individual/collective efficacy for informed action (Jensen & Schnack, 1997; Mogensen & Schnack, 2010). Illustratively:

- Critical understanding ↔ recognizing scarcity and trade-offs (e.g., water/electricity saving, repair vs. replacement).
- Practical/participatory skills ↔ budgeting, reuse/repair routines, task coordination, mutual aid.
- Agency/collective efficacy ↔ initiating support networks, organizing co-residence, negotiating roles, interacting with services.

Appendix B provides a summary matrix linking representative codes and excerpts to these dimensions. This mapping was applied after core grounded categories had stabilized, functioning as a second-order interpretive lens rather than a driver of initial coding. The alignment is conceptual and does not constitute a validated measurement instrument.

Trustworthiness and rigour

Credibility was enhanced through triangulation (interviews, observations, documents) and peer debriefing within the research team; an external critical reading also reviewed the coherence of the category scheme and emergent model. Dependability and confirmability were supported by an audit trail (memos, codebooks, decision logs) and reflexive notes on assumptions and power dynamics (Lincoln & Guba, 1985; Miles et al., 2014). Transferability was addressed via thick description of household contexts, solidarity configurations and illustrative excerpts. Reporting follows key items from the COREQ checklist for interview studies (Tong, Sainsbury & Craig 2007). Peer debriefs were held biweekly; discrepancies in the double-coded subset were resolved by negotiated agreement, with decisions and rationales recorded in the audit trail.

Ethics, reflexivity and limitations

Ethical approval was obtained from the authors' institutional review board (details withheld for double-blind review). Participants received oral and written information on the study's aims, voluntariness, potential risks and confidentiality safeguards and subsequently provided informed

consent. Pseudonyms are used throughout; identifying details were modified or aggregated to mitigate deductive disclosure. Audio files were encrypted, and all materials stored on secure, access-restricted servers. Participants could decline to answer any question and withdraw at any point without consequence. No financial compensation was provided (transport reimbursed when necessary). In line with institutional policy, data will be retained on an encrypted server for three years and then destroyed. Full transcripts were not returned to participants; instead, we conducted targeted excerpt checks during follow-ups to minimize misinterpretation while preserving anonymity.

Given the relational character of family interviews, the team maintained a reflexive stance regarding positionality (e.g., gender, class, professional status) and its influence on access, questioning and interpretation. For example, interviews with female heads of household more often foregrounded care coordination and household budgeting than interviews with retired men, which prompted adjustments to the interview guide (e.g., additional probes on economic trade-offs). Access to certain rural households was facilitated by community intermediaries; these dynamics were documented as potential conversion factors shaping narrative production. Reflexive memos recorded such tensions and made analytic decisions explicit, particularly when interpreting gendered labour and intergenerational authority (Tong *et al.*, 2007).

A residual risk remains that highly isolated or conflictual households were less reachable; diversified entry points and contrastive-case seeking were used to mitigate this limitation.

Findings

The qualitative corpus¹ reveals complex and ambivalent intergenerational dynamics. Three dominant configurations of family solidarity emerge across socio-geographical contexts, household structures and gender relations. Each illustrates a distinct logic of economic resilience within Moroccan families under mounting social fragility. Throughout, households function as everyday ecologies of learning in which routines of frugality, coordination and mutual aid cultivate elements of action competence – critical understanding, practical/participatory skills and individual/collective efficacy. At the same time, these solidarities operate through gendered “conversion factors” that redistribute time, authority and responsibility unevenly, shaping who can learn, decide and act within the household.

Prolonged parental provision to adult children

In urban centres such as Fès, Sefrou and Meknès, parents – often retired or active in the informal sector – extend support well beyond legal adulthood, underwriting daily expenses and, at times, those of grandchildren.

“My son is 33. He still lives here with his wife and two children. He never had a stable job. I pay for the baby’s milk, school, even the electricity sometimes.” (Fatiha, 63, Sefrou, translated)

“We cannot leave our children outside, even if they don’t work. But it is getting heavy. I deprive myself for them.” (Abdelkarim, 68, retired, Fès, translated)

“It’s not that I want them to leave, but sometimes I need silence and space—to think about myself.” (Latifa, 59, Meknès, translated)

¹*Note on quotes.* Excerpts are translated and lightly edited for clarity; all names are pseudonyms, and some place details are generalized to protect confidentiality.

These downward flows are anchored in strong social norms of parental duty yet accompanied by quiet fatigue, heightened by limited institutional safety nets and uncertainty about adult children's trajectories. Empirically, this configuration stabilizes households through a "default safety net" provided by older generations; analytically, it also reveals a tension between obligation and capacity, as support becomes routinized and gradually normalized as an expected entitlement rather than a negotiated arrangement.

From an ESE/action-competence perspective, routine budget meetings and repair-over-replacement choices foster critical understanding and practical skills; yet when provision remains unilateral and decision-making is concentrated in a single provider, collective efficacy may erode and solidarity can shift towards constrained obligation.

The household as a site of mutual aid: reciprocity amid latent tensions

In extended households in Taza, Moulay Yacoub and peri-rural fringes, multigenerational co-residence operates as both economic necessity and collective adaptation. Tasks and resources are distributed according to capacity – flexible yet unequal, with women bearing disproportionate coordination and emotional labour.

"My husband works far away, so I live with my in-laws, my children, and my two sisters-in-law. I take care of everything at home. Another one does the shopping. We help each other, but it is not always fair." (Samira, 35, Moulay Yacoub, translated)

"When my father fell ill, I left my job to stay here. Now my brother sends some money from Tangier. Each of us helps in our own way." (Mohammed, 28, Taza, translated)

"I say nothing, I keep it to myself. But sometimes I want to leave – too many people, too many responsibilities." (Hayat, 42, Taza, translated)

Cohabitation buffers volatility and structures participatory routines (care rotas, shared ledgers), yet latent tensions persist, muted by loyalty and modesty. This configuration makes visible a key mechanism: resilience is produced through "care governance" (rotas, coordination, conflict mediation), but the governance work itself is frequently feminized and treated as a moral duty rather than a shareable responsibility.

These arrangements cultivate practical/participatory skills and stewardship habits (e.g., energy/water saving), while simultaneously reproducing gendered burdens that can limit women's agency. Women's contributions often operate as "invisible infrastructure": they sustain everyday coordination without proportional access to voice in household decisions, thereby converting solidarity into a gendered constraint.

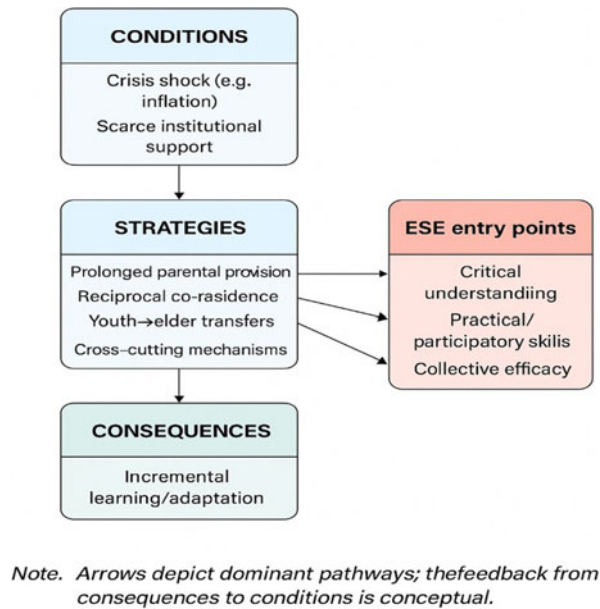
Youth-to-elder support: a quiet inversion of solidarity flows

In rural areas such as Boulemane and Taounate, upward transfers from young adults – often internal or international migrants – sustain parents and grandparents who remain in the village. Regular remittances coexist with hidden precarity among senders.

"My son sends me 1 500 dirhams every month. He works in a hotel in Marrakech. Thanks to him, we lack nothing." (Haj Ahmed, 74, Boulemane, translated)

"I'm a kitchen helper in Casablanca. I send money to my mother in Taounate. Even if I'm not doing well, she must not lack anything." (Hamza, 26, translated)

Figure 2. Typologies of intergenerational solidarity in Moroccan households.



“I haven’t bought new clothes for two years. Everything I earn goes to the village. They think I’m rich here, but I share a room with two others.” (Younes, 29, Casablanca, from Boulemane, translated)

Legitimated by filial piety (*birr al-wālidayn*), these transfers build budgeting and coordination capacities across households and sometimes neighbourhood mutual aid. They also concentrate risk on a small number of earners and create “capability volatility”: when labour markets soften, the same solidarity norm can generate debt, conceal hardship and delay life-course transitions for senders. This arrangement therefore stabilizes elders while redistributing vulnerability onto youth.

Figure 2 summarizes these three configurations as a process map linking shock conditions, solidarity practices, resources generated and unequal costs (especially gendered care and risk concentration).

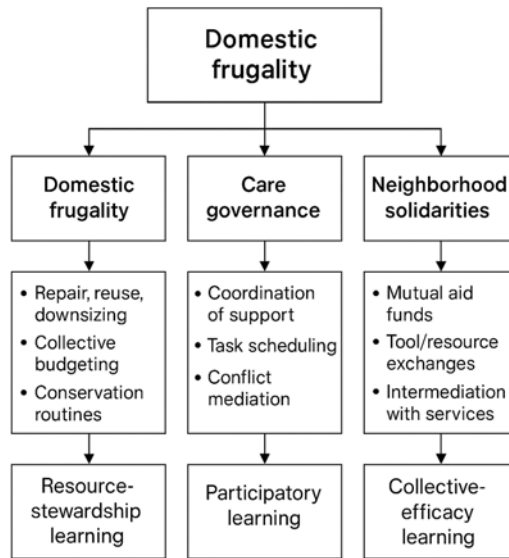
This flowchart summarizes three dominant configurations of intergenerational solidarity identified through qualitative analysis: (1) parental provision to adult children, (2) reciprocal support in multigenerational households and (3) upward remittances from youth to elders. It highlights core dynamics, gender roles and forms of action competence cultivated in each configuration.

Cross-cutting mechanisms and limitations

Across configurations, households translate scarcity into action through routinized practices of frugality, care governance and neighbourhood mutual aid, which function as informal learning processes shaping action competence.

These established routines contribute to stabilizing household budgets during periods of inflation, nurture a reasoning framework that evaluates cost versus benefit and disseminate tacit knowledge through processes of observation and guided participation, gradually leading to the consolidation of a diverse portfolio of action dispositions that families can mobilize in response to recurring shocks and challenges (see the literature on home-as-learning within ESE, e.g., Payne, 2005; and the action-competence framework: Jensen & Schnack, 1997; Mogensen & Schnack, 2010).

Figure 3. Typologies of intergenerational solidarity and learning ecologies in Moroccan households.



However, it is also important to note that the co-residential arrangements prevalent in many families often externalize the burdens of coordination, emotional labour and time management predominantly onto women, thereby producing a state of moral fatigue, even as these dynamics are essential for maintaining the overall functionality of households. Participants in these studies have articulated this strain and pressure explicitly, highlighting the nuanced challenges that accompany their daily lives.

“It’s not that I don’t love my family. I’m just tired of managing everything, of thinking for everything. Men don’t see anything” (Amina, 47, Sefrou, translated).

“I work, I cook, I care for my parents and my children . . . but no one asks whether I am okay.” (Khadija, 40, Taza, translated)

These care infrastructures are also learning ecologies – rota setting, conflict mediation and task choreography teach participatory governance – but without attention to care justice, their benefits are unevenly distributed, constraining women’s agency (Kabeer, 1999; Tronto, 1993).

Empirically, the same practices that enable collective problem-solving can reproduce patriarchal authority by separating implementation (often feminized) from decision and recognition (often masculinized), thereby limiting women’s voice and time for participation beyond the household.

The ambivalence – pride in solidarity yet exhaustion – is a recurring thread across accounts.

Families also activate social capital beyond the home: small neighbourhood emergency funds, tool/repair exchanges and job-lead brokerage (“call the uncle”). These meso-level arrangements scaffold collective problem-solving, reduce individual risk and normalize mutual aid as a local public good. They also extend intergenerational learning outward: children observe adults organizing funds, negotiating rules and liaising with services, reinforcing collective efficacy (Ballantyne et al., 1998).

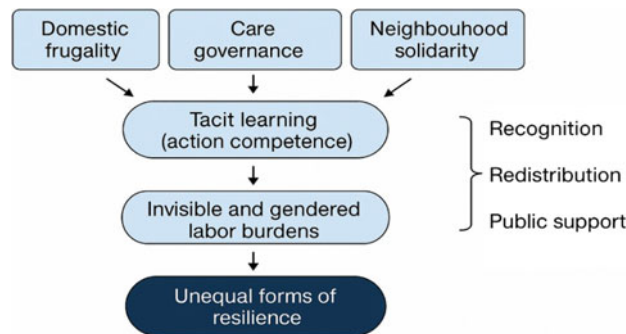
The forms of solidarity described above can be categorized into a typology of learning ecologies embedded in Moroccan households. Figure 3 below presents these configurations, mapping the interrelations between domestic frugality, care governance and meso-level mutual aid. This visual

Table 1. Configurations of intergenerational solidarity: contexts, enabling conditions, illustrative quote and ESE/action-competence links

Configuration	Typical settings	Enabling conditions (indicative)	Illustrative quote (translated, 1–2 lines)	ESE/action-competence link*
Prolonged parental provision to adult children	Urban (Fès, Sefrou, Meknès); multigenerational households; informal/unstable employment	Limited social protection; unstable youth trajectories; shared housing	“I pay for the baby’s milk . . . sometimes the electricity.” (Fatiha, 63)	Critical understanding & practical skills (budget trade-offs; repair vs replacement; household rule-setting)
Reciprocal co-residence in multigenerational households	Peri-urban/rural (Taza, Moulay Yacoub); extended households	Care needs for elders; housing pressure; pooled income/roles	“We help each other, but it is not always fair.” (Samira, 35)	Participatory skills (care rotas; shared ledgers; negotiation) + constraints (gendered care load; reduced voice/time)
Youth-to-elder remittances (upward transfers)	Rural origin (Boulemane, Taounate) with internal migration	Filial obligation norms; regular transfers; labour-market exposure of senders	“Everything I earn goes to the village.” (Younes, 29)	Collective efficacy across households (coordination of transfers; mutual aid) + volatility (risk concentrated on few earners)

Note: *Action-competence dimensions: critical understanding, practical/participatory skills, individual/collective efficacy.

Figure 4. Hidden mechanisms of resilience: invisible labour behind informed action.



summary clarifies how each mechanism contributes to action competence while also revealing the tensions that constrain equitable outcomes.

Taken together, domestic frugality, care governance and neighbourhood solidarities translate scarcity into informed action, yet under constraints that can entrench gendered burdens and concentrate risk on a few earners. For ESE, the task is to make these mechanisms explicit and equitably governed, so the cultivation of action competence does not rest on invisible labour.

A visual synthesis of these interlocking mechanisms is provided in Figure 4, detailing how action competence emerges from domestic practices while revealing hidden gendered burdens.

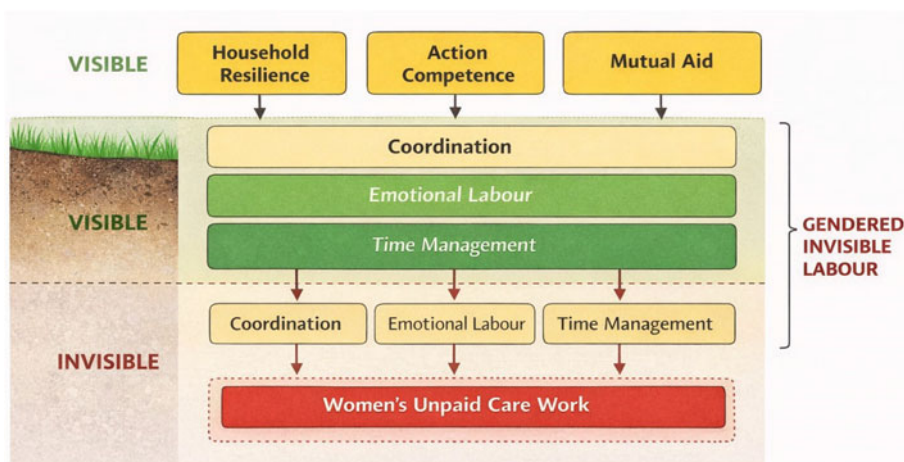
This diagram illustrates the layered processes – often gendered and invisible – that underpin households’ ability to transform scarcity into informed action, linking daily frugality, emotional coordination and community solidarity.

For a synoptic view of the evidence, Table 1 aligns each configuration with its contexts, enabling conditions, a brief illustrative quote and the corresponding ESE/action-competence link; Table 2 summarizes the cross-cutting mechanisms and their associated constraints shaping action competence.

Table 2. Cross-cutting mechanisms shaping household action competence: practices and constraints

Cross-cutting mechanism	Observed practices (examples)	Action-competence dimension(s)	Constraints/equity issues
Domestic frugality as “situated curriculum”	Repair-reuse routines; bulk cooking; careful appliance use; budgeting decisions	Critical understanding; practical skills	Time poverty; mental load; informal skills remain unrecognized
Care governance and household coordination	Care rotas; task lists; conflict mediation; “who does what” rules	Participatory skills; collective efficacy	Gendered distribution of coordination and emotional labour ; moral fatigue; limited decision voice for women
Neighbourhood mutual aid (beyond the household)	Emergency street funds; tool sharing; job-lead brokerage; ad hoc support	Collective efficacy; participatory skills	Reliance on informal norms; uneven contribution; risk shifts to a small set of providers
Solidarity as capability conversion	Co-residence arrangements; transfer scheduling; reallocating expenses during shocks	All three dimensions (via real opportunities to act)	Capability volatility when transfers fail; dependency; constrained choices for youth senders

Figure 5. Integrated framework of intergenerational solidarity, cross-cutting mechanisms and action competence.



Discussion

This analysis elucidates the heterogeneity and intricacy of the mechanisms by which Moroccan families mitigate recurrent socio-economic disturbances. We contend that the family functions as a micro-educational institution wherein elements of action competence are cultivated through quotidian practices: a critical comprehension of scarcity and trade-offs, practical and participatory skills (such as repair, reuse, budgeting and domestic governance) and individual as well as collective efficacy (including intra-household coordination and neighbourhood mutual assistance).

This interpretation expands upon ESE perspectives that emphasize learning through practice and the transformation of routines into informed action scripts (Jensen & Schnack, 1997; Mogensen & Schnack, 2010; Payne, 2005). Figure 5 synthesizes the hidden, gendered mechanisms through which these everyday practices are translated into resilience and uneven action competence.

These findings clarify that intergenerational solidarity operates as a critical mechanism of informal ESE within families. Through participation in everyday practices such as resource conservation, adaptive consumption and collective problem-solving, family members acquire experiential knowledge, practical skills and dispositions that enable them to navigate environmental and socio-economic constraints.

In line with the ESE literature, these processes contribute to the development of sustainability-oriented action competence, understood as the ability to critically understand structural challenges, exercise agency and engage in adaptive and responsible practices within real-life contexts (Jensen & Schnack, 1997; Wals, 2015). Thus, intergenerational solidarity constitutes not only a coping strategy, but also an educational process that supports the formation of capabilities essential for sustainable living and social-ecological resilience.

Reconfiguring intergenerational solidarities under pressure

The three configurations identified – extended parental provision, reciprocal multigenerational co-residence and youth-to-elder transfers – affirm the diversity and adaptability of intergenerational solidarity. They correspond with the six classical dimensions (affective, normative, functional, consensual, associative, structural) while undergoing reconfiguration due to inflationary pressures, migration trajectories and individual health status (Bengtson & Roberts, 1991; Lowenstein, 2007; Szydlik, 2016).

The empirical material shows that solidarity is not a uniform “resource;” it is a relational arrangement sustained through negotiation, moral obligation and routinized governance, which can shift from voluntary support to constrained duty as crises persist.

We conceptualize this phenomenon as a manifestation of “default resilience”: an adaptive capacity that emerges not from sufficient institutional support, but from necessity – frequently imposing disproportionate burdens on specific family members, predominantly women.

From the perspective of the capability approach, these elements represent constrained agency: specific assets (such as housing, modest pensions and relational networks) serve as conversion factors that transmute scarce resources into valued freedoms (including continuing education, access to care and energy security), while their absence significantly constricts available choices (Nussbaum, 2011; Sen, 1999).

The findings add a mechanism-level specification: conversion factors are not only material (housing, pensions) but also relational and normative (obligation, authority, reputational expectations), shaping who bears costs and who accesses the benefits of resilience.

Consequently, access to “effective” resilience is unevenly allocated based on patrimony, social capital and territorial embeddedness, resulting in divergent trajectories even amidst comparable shocks. This interpretation further elucidates the volatility of households whose stability is contingent upon a limited number of earners (for instance, young migrants) susceptible to fluctuations in the labour market.

The structural limits of “default resilience”

Systemically, the strategies observed sustain households yet indicate the inadequacy of social protection mechanisms capable of addressing escalating needs (Walsh, 2016). Where institutional scaffolding is thin, household buffering becomes a substitute for welfare, shifting crisis management responsibilities onto kin networks and domestic governance.

In capability terms, this implies that resilience depends on whether households can convert limited resources into stable opportunities—an uneven process shaped by assets, norms and authority relations (Nussbaum, 2011; Sen, 1999). This helps explain why households reliant on a narrow set of earners remain structurally exposed even when solidarity is strong.

Gendered and invisible resilience

Domestic coordination, time management and emotional labour fall predominantly to women. This invisible work stabilizes the household while constraining women's agency (time, decision voice) and producing moral fatigue that is rarely acknowledged by kin or policy. Scholarship on empowerment and care justice illuminates these asymmetries and cautions against heroic narratives of "resilience" that naturalize inequality (Kabeer, 1999; Tronto, 1993). Across accounts, women repeatedly described coordination and mediation as taken-for-granted obligations, while authority over rules and key resource decisions remained unevenly distributed.

The evidence suggests that solidarity can reproduce patriarchal structures through three linked mechanisms: (1) naturalization of women's availability for care and mediation; (2) asymmetric authority over household rules and resource decisions; and (3) moral discipline through obligation and "silencing" of conflict, which limits women's capacity to renegotiate roles. In educational terms, participatory skills (coordination, mediation, governance) are indeed learned, but the learning returns are unequal when those who enact participation do not enjoy equivalent decision power or recognition.

Theoretical contribution: families as action-oriented learning ecologies

Empirically, households appear as learning ecologies in which informed action is built through practice: critical understanding (scarcities, trade-offs), practical/participatory skills (repair, reuse, planning, conflict mediation) and efficacies (capacity to mobilize kin and neighbours) (Jensen & Schnack, 1997; Mogensen & Schnack, 2010; Payne, 2005). The contribution lies in showing how crisis-time solidarity simultaneously (a) generates action competence through routinized practice and (b) redistributes its conditions of possibility through gendered conversion factors, producing "unequal action competence" across household members.

Theoretically, this moves beyond individualizing views of resilience by underscoring its interdependence with public regulation, cultural norms and territorial ecologies – locally embedded configurations of social, economic and cultural conditions that shape access to resources, networks and adaptive strategies and thereby mediate how resilience is experienced and unevenly distributed across space. In this regard, critiques of "neoliberal resilience" – which displace adaptation burdens onto households – are instructive: without light-touch public supports and equitable domestic governance, family-based buffering risks exhaustion and dependency (Joseph, 2013).

Practice implications (ESE/policy). Make coordination tasks explicit and shared (co-decision tools, rotation of roles), equip the repair-reuse-efficiency pathway (micro-supports, repair workshops, tool libraries) and bridge homes and neighbourhoods (street funds, mutual-aid initiatives). Such low-cost levers convert routines into action competence while mitigating gendered load; their durability depends on care-justice-oriented governance and targeted public scaffolding.

In AJEE terms, the priority is not to romanticize family solidarity but to design educational and policy interventions that recognize, redistribute and support the labour through which sustainability-oriented action is made possible in everyday life.

Limitations and Future Research

Limitations

This study has several limitations that bound interpretation and transferability.

Regional and qualitative scope: evidence derives from 65 semi-structured interviews across 28 families in the Fès–Meknès region; findings support analytical rather than statistical generalization (Lincoln & Guba, 1985). Although maximum-variation selection sought heterogeneity, households

characterized by severe conflict, social isolation, or a breakdown of solidarity may remain under-represented, given the practical and ethical constraints of access in fragile situations.

Temporal and contextual specificity: data were collected in the wake of COVID-19 and amid inflationary stress; the salience of solidarity configurations and frugality routines may vary with macroeconomic cycles and policy shifts (Walsh, 2016). Accordingly, the configurations reported here should be read as crisis-salient arrangements rather than stable “types.”

Participant selection and gatekeeping: purposeful and snowball recruitment through community relays risks selection bias (e.g., over-reliance on cooperative or networked families), potentially attenuating variation in household governance and neighbourhood ties. This may also bias the corpus towards households able to narrate solidarity as a moral accomplishment, while excluding more hidden forms of constraint or rupture.

Self-report and desirability bias: accounts of resource sharing, care and budgeting are self-reported and can reflect normative expectations (e.g., filial duty), despite triangulation with observations and household documents (Miles et al., 2014). This limitation is particularly relevant where solidarity is culturally valorized and where gendered obligations may be normalized rather than problematized in narration.

Language and translation: interviews were conducted in Arabic and/or French; back-translation was applied to analytic excerpts, yet subtle meanings (especially around emotions, care and obligation) can shift in English rendering (Charmaz, 2014).

Coding and analytic reliability: iterative grounded analysis included selective double-coding (~10–15%) to stabilize operational definitions; full intercoder reliability statistics were not computed, which limits claims about replicability of coding decisions (Saldaña, 2021). Instead, credibility was pursued through constant comparison, memoing and an audit trail, consistent with constructivist grounded theory conventions (Charmaz, 2014).

Construct boundaries in ESE mapping: the analytical alignment of emergent codes to action-competence dimensions (critical understanding; practical/participatory skills; individual/collective efficacy) is conceptual, not a validated measurement instrument; construct validity requires future scale development (Jensen & Schnack, 1997; Mogensen & Schnack, 2010). The mapping is intended to clarify educational significance rather than to quantify competence levels.

Researcher positionality: access, question framing and interpretation may carry positional effects (gender, class, professional status), partly mitigated but not eliminated by reflexive memoing and peer debriefs (Lincoln & Guba, 1985). Given the sensitivity of family authority relations, future work may benefit from expanded participatory validation and member-informed interpretation processes.

Future research

We outline priorities to consolidate an ESE-aligned, action-oriented scholarship on family resilience.

Longitudinal and mixed-methods designs: track families over time to examine stability and drift in solidarity configurations and to test whether frugality/repair routines consolidate into durable action competence. Combine qualitative panels with time-use diaries, energy/water logs and episodic surveys. Longitudinal designs are also needed to capture transitions from solidarity to rupture (and vice versa) under changing labour-market and policy conditions.

Intervention and implementation studies: test family-anchored ESE modules that make coordination work visible and shared (decision logs, rotating facilitator, rule cards) and equip repair–reuse–efficiency practices (micro-vouchers, tool-library access). Employ cluster-randomized or stepped-wedge rollouts with process evaluation. Such work should examine not only behavioural outcomes but also shifts in participation, voice and perceived action possibilities—core concerns in action-competence scholarship (Jensen & Schnack, 1997; Mogensen & Schnack, 2010).

Gender-transformative approaches: evaluate care-justice strategies (role rotation, decision-voice parity, respite supports) for effects on women's time control, decision voice and household collective efficacy (Kabeer, 1999; Tronto, 1993). Future research should also examine how masculinities and intergenerational authority shape the distribution of learning opportunities and responsibilities in household "learning ecologies."

Measurement development: build and validate home-based action-competence instruments (subscales for critical understanding, practical/participatory skills and individual/collective efficacy), and capability-informed indicators that capture conversion factors (Nussbaum, 2011; Sen, 1999). Developments should ensure cultural sensitivity and avoid conflating competence with compliance, in line with action-competence critiques of purely behavioural framings.

Neighbourhood and network analytics: use social network analysis to study how micro-funds, tool sharing and brokerage ("call the uncle") scale from private resilience to collective stewardship; assess diffusion and equity of access. This line of inquiry can clarify when neighbourhood mutual aid functions as an inclusive public good versus a selective resource reinforcing exclusion.

Comparative and policy-sensitive designs: compare urban/rural regions and policy environments; exploit natural experiments (e.g., municipal repair schemes) to estimate effects on household capabilities and ESE outcomes. Comparative work across Global South settings could further test the transferability of the proposed conceptual contribution and specify boundary conditions.

Economic evaluation: conduct cost-effectiveness analyses of small-budget levers (repair vouchers, tool libraries) relative to gains in household stability and collective efficacy.

Ethics and participation: advance participatory and co-designed protocols with households and neighbourhood groups; refine safeguards for anonymity when mapping kinship and mutual-aid networks. Particular attention is needed for deductive disclosure risks in tightly knit communities and for the ethics of representing intra-household conflict and gendered power relations.

Conclusion

This study shows that Moroccan families mobilize three intergenerational configurations, extended parental provision, reciprocal multigenerational co-residence and youth-to-elder transfers, to buffer recurrent shocks while simultaneously cultivating action competence through everyday practice.

Routines of repair-reuse-efficiency, shared budgeting and neighbourhood mutual aid operate as learning ecologies that develop critical understanding of resource constraints and socio-ecological trade-offs, practical/participatory skills and individual/collective efficacy – core outcomes in ESE (Jensen & Schnack, 1997; Mogensen & Schnack, 2010; Payne, 2005). In AJEE terms, the household is not merely a site where sustainability messages are received, but a setting where sustainability-relevant "action scripts" are learned, rehearsed and negotiated through lived necessity.

Yet these gains remain constrained by uneven conversion factors (assets, networks) and by gendered coordination burdens that render resilience effective but fragile (Kabeer, 1999; Sen, 1999; Tronto, 1993). The findings demonstrate that solidarity can function as both a capability-enhancing infrastructure and a mechanism of unequal burden-shifting, reproducing patriarchal authority when responsibility for care and mediation is feminized while decision voice remains uneven.

Conceptually, the study advances a relational account of family resilience co-produced by public regulation, cultural norms and territorial ecologies, moving beyond individualizing narratives (Walsh, 2016). We propose "intergenerational solidarity resilience" as a transferable

analytical concept to examine how crisis-time solidarities generate and unevenly distribute, the conditions for sustainability-oriented agency across contexts (Bengtson, 2001; Silverstein & Bengtson, 1997).

Practically, the findings support light-touch public scaffolding (repair and efficiency schemes, community care supports, accessible tool-sharing infrastructures) and equitable domestic governance (role rotation, decision-voice parity, explicit coordination tools) that convert household routines into durable, shared capacities for informed action. For ESE/ESD practitioners and curriculum designers, the implication is to recognize family-based learning ecologies, to design bridges between home–community initiatives and educational programmes and to foreground care justice so that the cultivation of action competence does not depend on invisible, gendered labour. Future research should test family-anchored ESE modules and capability-oriented targeting in longitudinal and comparative designs to establish what scales, for whom and at what cost.

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Ethical statement. This study was conducted in accordance with ethical research standards. Informed consent was obtained from all participants. Data were anonymized to ensure confidentiality.

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Appendix A

A1. Sample summary (n = 65 participants; 28 families)

Dimension	Category	n
Gender	Female	33
Gender	Male	32
Age band	18–29	17
Age band	30–44	16
Age band	45–59	16
Age band	60+	16
Locality	Urban	33
Locality	Rural	32
Household type	Multigenerational	33
Household type	Nuclear	32
Employment status	Employed (formal)	11
Employment status	Employed (informal)	11
Employment status	Unemployed	11
Employment status	Homemaker	11
Employment status	Student	11
Employment status	Retired	10

A2. Participant roster (pseudonymized; cross-references IDs used in the text)

Participant ID	Family ID	Gender	Age band	Locality	Household type	Employment status	Family role
P001	F-01	Female	18–29	Urban	Multigenerational	Employed (formal)	Head
P002	F-01	Male	30–44	Rural	Nuclear	Employed (informal)	Spouse/Partner
P003	F-01	Female	45–59	Urban	Multigenerational	Unemployed	Adult child
P004	F-02	Male	60+	Rural	Nuclear	Homemaker	Grandparent
P005	F-02	Female	18–29	Urban	Multigenerational	Student	Other kin
P006	F-03	Male	30–44	Rural	Nuclear	Retired	Head
P007	F-03	Female	45–59	Urban	Multigenerational	Employed (formal)	Spouse/Partner
P008	F-04	Male	60+	Rural	Nuclear	Employed (informal)	Adult child
P009	F-04	Female	18–29	Urban	Multigenerational	Unemployed	Grandparent
P010	F-04	Male	30–44	Rural	Nuclear	Homemaker	Other kin
P011	F-05	Female	45–59	Urban	Multigenerational	Student	Head
P012	F-05	Male	60+	Rural	Nuclear	Retired	Spouse/Partner
P013	F-06	Female	18–29	Urban	Multigenerational	Employed (formal)	Adult child
P014	F-06	Male	30–44	Rural	Nuclear	Employed (informal)	Grandparent
P015	F-07	Female	45–59	Urban	Multigenerational	Unemployed	Other kin
P016	F-07	Male	60+	Rural	Nuclear	Homemaker	Head
P017	F-08	Female	18–29	Urban	Multigenerational	Student	Spouse/Partner
P018	F-08	Male	30–44	Rural	Nuclear	Retired	Adult child
P019	F-08	Female	45–59	Urban	Multigenerational	Employed (formal)	Grandparent
P020	F-09	Male	60+	Rural	Nuclear	Employed (informal)	Other kin
P021	F-09	Female	18–29	Urban	Multigenerational	Unemployed	Head
P022	F-10	Male	30–44	Rural	Nuclear	Homemaker	Spouse/Partner
P023	F-10	Female	45–59	Urban	Multigenerational	Student	Adult child
P024	F-11	Male	60+	Rural	Nuclear	Retired	Grandparent
P025	F-11	Female	18–29	Urban	Multigenerational	Employed (formal)	Other kin
P026	F-11	Male	30–44	Rural	Nuclear	Employed (informal)	Head
P027	F-12	Female	45–59	Urban	Multigenerational	Unemployed	Spouse/Partner
P028	F-12	Male	60+	Rural	Nuclear	Homemaker	Adult child
P029	F-13	Female	18–29	Urban	Multigenerational	Student	Grandparent
P030	F-13	Male	30–44	Rural	Nuclear	Retired	Other kin
P031	F-13	Female	45–59	Urban	Multigenerational	Employed (formal)	Head
P032	F-14	Male	60+	Rural	Nuclear	Employed (informal)	Spouse/Partner
P033	F-14	Female	18–29	Urban	Multigenerational	Unemployed	Adult child
P034	F-15	Male	30–44	Rural	Nuclear	Homemaker	Grandparent
P035	F-15	Female	45–59	Urban	Multigenerational	Student	Other kin

(Continued)

A2. (Continued)

Participant ID	Family ID	Gender	Age band	Locality	Household type	Employment status	Family role
P036	F-16	Male	60+	Rural	Nuclear	Retired	Head
P037	F-16	Female	18–29	Urban	Multigenerational	Employed (formal)	Spouse/Partner
P038	F-16	Male	30–44	Rural	Nuclear	Employed (informal)	Adult child
P039	F-17	Female	45–59	Urban	Multigenerational	Unemployed	Grandparent
P040	F-17	Male	60+	Rural	Nuclear	Homemaker	Other kin
P041	F-18	Female	18–29	Urban	Multigenerational	Student	Head
P042	F-18	Male	30–44	Rural	Nuclear	Retired	Spouse/Partner
P043	F-18	Female	45–59	Urban	Multigenerational	Employed (formal)	Adult child
P044	F-19	Male	60+	Rural	Nuclear	Employed (informal)	Grandparent
P045	F-19	Female	18–29	Urban	Multigenerational	Unemployed	Other kin
P046	F-20	Male	30–44	Rural	Nuclear	Homemaker	Head
P047	F-20	Female	45–59	Urban	Multigenerational	Student	Spouse/Partner
P048	F-21	Male	60+	Rural	Nuclear	Retired	Adult child
P049	F-21	Female	18–29	Urban	Multigenerational	Employed (formal)	Grandparent
P050	F-21	Male	30–44	Rural	Nuclear	Employed (informal)	Other kin
P051	F-22	Female	45–59	Urban	Multigenerational	Unemployed	Head
P052	F-22	Male	60+	Rural	Nuclear	Homemaker	Spouse/Partner
P053	F-23	Female	18–29	Urban	Multigenerational	Student	Adult child
P054	F-23	Male	30–44	Rural	Nuclear	Retired	Grandparent
P055	F-24	Female	45–59	Urban	Multigenerational	Employed (formal)	Other kin
P056	F-24	Male	60+	Rural	Nuclear	Employed (informal)	Head
P057	F-25	Female	18–29	Urban	Multigenerational	Unemployed	Spouse/Partner
P058	F-25	Male	30–44	Rural	Nuclear	Homemaker	Adult child
P059	F-26	Female	45–59	Urban	Multigenerational	Student	Grandparent
P060	F-26	Male	60+	Rural	Nuclear	Retired	Other kin
P061	F-27	Female	18–29	Urban	Multigenerational	Employed (formal)	Head
P062	F-27	Male	30–44	Rural	Nuclear	Employed (informal)	Spouse/Partner
P063	F-27	Female	45–59	Urban	Multigenerational	Unemployed	Adult child
P064	F-28	Male	60+	Rural	Nuclear	Homemaker	Grandparent
P065	F-28	Female	18–29	Urban	Multigenerational	Student	Other kin

Appendix B

B1. Example matrix: mapping codes to action-competence dimensions

Emergent code	Excerpt (pseudonymized)	Action-competence dimension	Analytic memo (1–2 lines)
Repair before buying	“We fix the washing machine with the neighbour before thinking of a new one.” (F-07, urban)	Practical/participatory skills	Procedural know-how and peer collaboration; learning-by-doing within household/community.
Water rotation	“Children take turns checking taps at night.” (M-12, rural)	Critical understanding/stewardship	Shared routine builds awareness of scarcity and responsibility for common resources.
Budget huddle	“At month’s end we sit together to decide priorities.” (F-03, urban)	Participatory skills/collective efficacy	Joint decision-making nurtures participation, negotiation and perceived efficacy.
Reuse & repurpose	“Old clothes become cleaning rags; jars get reused for storage.” (J-09, urban)	Practical skills	Material frugality as situated curriculum; tacit, intergenerational transmission.
Call the uncle	“We activate the family network to find a job lead.” (J-03, urban)	Collective efficacy/agency	Network activation as a learned strategy; builds confidence in mobilizing social capital.
Care rota	“We drew a schedule so grandmother is never alone.” (F-14, urban)	Participatory skills/cooperation	Task coordination and time management; equity concerns when gendered.
Repair vs. replace calculus	“We compare the price of fixing to buying; most times we fix.” (M-01, rural)	Critical understanding	Cost–benefit reasoning tied to environmental and economic trade-offs.
Neighbourhood mutual aid	“Our lane has a small fund for emergencies.” (F-11, urban)	Collective efficacy	Community-level scaffolding for action; extends learning beyond the household.
Appliance energy etiquette	“We unplug devices after use; children remind the adults.” (J-15, urban)	Stewardship/practical skills	Intergenerational modelling with role reversal; habit formation.
Shared meals economy	“Cooking in bulk on weekends saves gas and time.” (F-05, urban)	Practical skills/critical understanding	Resource planning and collective provisioning as teachable routines.
Water harvesting workaround	“We collect rainwater for plants and cleaning.” (M-08, rural)	Practical skills/stewardship	Low-tech adaptation linking environmental awareness with domestic practice.
Conflict as curriculum	“Arguments about bills helped us set fair rules.” (F-02, urban)	Participatory skills/collective efficacy	Negotiation and norm-setting; learning governance within the household.

Author Biographies

Fouad Annaki is a doctoral researcher in sociology at the Faculty of Letters and Human Sciences Dhar El Mahraz, Sidi Mohamed Ben Abdellah University, Fez, Morocco. His research focuses on social capital, intergenerational solidarity and entrepreneurship in contexts of economic uncertainty. His current work examines how informal support networks and socio-relational competencies contribute to resilience, access to resources and sustainable entrepreneurial trajectories in the Fès-Meknès region.

Yassine Annaki is an associate professor at the Faculty of Human and Social Sciences, Ibn Tofail University, Kenitra, Morocco. His academic interests include youth studies, education and the sociology of everyday life. His research explores generational change, identity formation and social resilience, with particular attention to how young people engage with social transformations and learning processes in changing societal contexts.

Saadeddine Igamane is a habilitated associate professor of sociology at the Faculty of Letters and Human Sciences Saïs, Sidi Mohamed Ben Abdellah University, Fez, Morocco. He is affiliated with the Laboratory for Research on Social Change. His research focuses on family sociology, education and social transformations, with an emphasis on intergenerational relations, vulnerability and the role of social learning in processes of adaptation and resilience.

Abdellah Nouib is a habilitated associate professor at the Faculty of Legal, Economic and Social Sciences, Cadi Ayyad University, Kelaa des Sraghna, Morocco. His teaching and research interests include economics, management, entrepreneurship and territorial development. His work examines the institutional and socio-economic conditions shaping entrepreneurial dynamics, public policies and sustainable local development processes.