

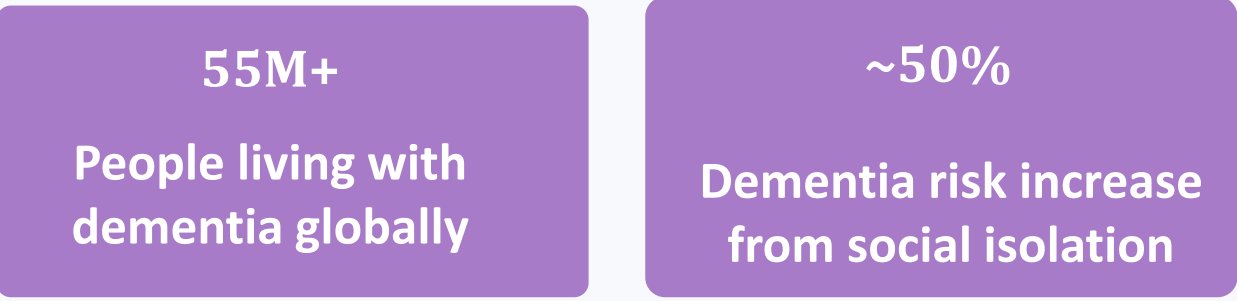
Social Isolation, Informal Care Gaps, and Dementia Risk Among Older Adults in Urban Ghana

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INTRODUCTION

The Challenge

Ghana's older adult population is growing rapidly, yet formal long-term care and dementia services remain virtually absent. The family and community have long served as the de facto care system. But urbanisation, migration of adult children, and economic pressure are steadily eroding these informal networks, particularly in cities like Accra.



**NASEM, 2020*

The Evidence Gap

Sub-Saharan Africa is conspicuously absent from existing systematic reviews on social isolation and cognitive decline. The overwhelming majority of evidence draws from the United States, Europe, and Australia. No study has examined this association in an urban Ghanaian population using a WHO-validated instrument.

Research Question

"How do social isolation and the erosion of informal caregiving intersect to shape dementia-relevant vulnerability among older adults in urban Ghana, in a country with no equivalent formal care system to absorb the shock?"

Study Objectives

Phase 1 — Quantitative: Examine the association between social isolation and cognitive function among urban older adults in Ghana (WHO SAGE Wave 2, n=830)

Phase 2 — Qualitative: Explore lived experiences through which social isolation affects cognitive health across five urban communities

Integration: Synthesise both phases within a sequential explanatory mixed-methods framework

Theoretical Framework

Social Convoy Model (Kahn & Antonucci, 1980). Layered social relationships erode through ageing, widowhood, and family dispersal, reducing cognitive protection.

Cognitive Reserve Theory (Stern, 2002). Education and social engagement build neurological resilience; deprivation accelerates decline.

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METHODS

Sequential Explanatory Mixed-Methods Design

PHASE 1 (Quantitative) PHASE 2 (Qualitative) INTEGRATION

Phase 1 — Quantitative

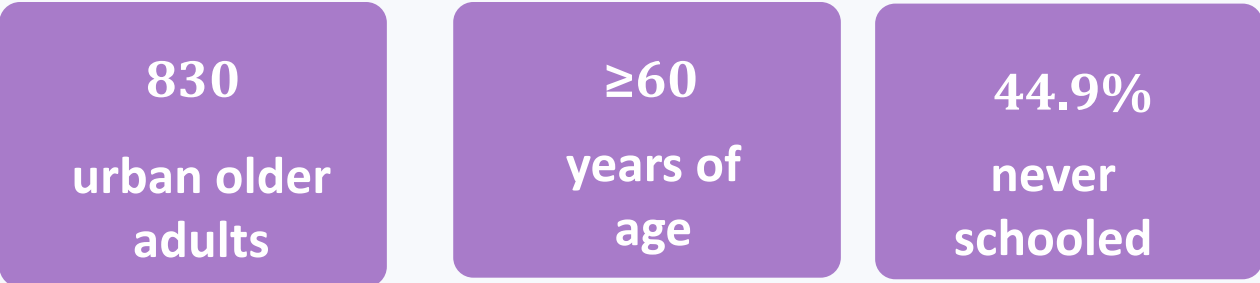
Data source: WHO SAGE Ghana Wave 2. Nationally representative household survey

Analytical sample: 830 urban older adults aged ≥60 years (from initial 901; listwise deletion)

Outcome: Cognitive Function Index. Composite of four neuropsychological measures: digit span forward, digit span backward, animal naming (verbal fluency), and delayed word recall, with each standardised to a z-score summed

Predictor: Social Isolation Score, with validated 3-item loneliness scale scored 3–12

Analysis: Hierarchical multiple linear regression — Block 1: sociodemographic; Block 2: health and functional; Block 3: social isolation score



Phase 2 — Qualitative

Design: Focus Group Discussions analysed using Attride-Stirling (2001) thematic network approach

Communities: Four urban sites (Adenta, Dansoman, Osu and Korle Gonno), and Two rural sites (Sege, Bawjiase)

Participants: 12-15 older adult participant per site.

Analysis tool: Six verified NVivo codebooks structured as global, organising, and basic themes

Original fieldwork: Collected 2024–2025 for a broader healthy ageing study; re-analysed 2026 for dementia-relevant content

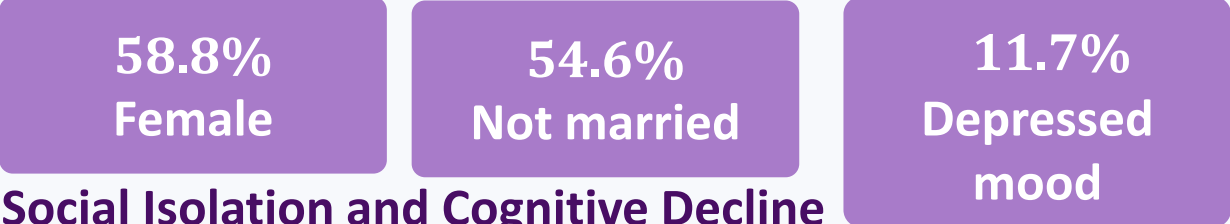
Integration

Quantitative findings establish the statistical scaffold, what the association is. Qualitative findings provide the explanatory depth as to why and how social isolation translates into cognitive vulnerability in the specific social and cultural context of urban and rural Ghana.

QUANTITATIVE FINDINGS (Phase 1)

Who Are the Older Adults in This Study?

The analytical sample comprised 830 urban older adults (mean age 70.71 years). The majority were female (58.8%). More than half were not married (54.6%) — widowed, separated, or never married — representing significant depletion of the innermost protective social convoy. Nearly half had never attended school (44.9%).



Social Isolation and Cognitive Decline

Social isolation was significantly and negatively associated with cognitive function — older adults reporting greater isolation scored measurably lower on the Cognitive Function Index ($r = -.215, p < .001$). This association held firm after controlling for all covariates. Social isolation independently predicted cognitive decline, with each unit increase in isolation associated with a measurable reduction in cognitive function ($B = -0.099, p = .028$).

Education as the Strongest Protective Factor

Educational attainment was the most powerful predictor of cognitive function across all three regression blocks. Older adults who had ever attended school scored significantly higher than those who had never been schooled ($B = 1.452, p < .001$). In a sample where nearly half never attended school, cognitive vulnerability is structurally embedded long before old age begins.

Gender Disparity Reflects History, Not Biology

Female older adults scored significantly lower on cognitive function than their male counterparts ($B = -0.744, p < .001$). This is explained not by biological difference but by historical educational gender gaps that denied older Ghanaian women access to schooling during their developmental years.

Depression and Isolation — Overlapping Pathways

Depressed mood was a marginally significant predictor when entered alone but lost significance when the Social Isolation Score was added ($p = .258$). Depression and isolation share variance in predicting cognitive decline, they are overlapping, mutually reinforcing pathways, not fully independent ones.

Social isolation independently predicts cognitive decline in urban and rural Ghana, even after controlling for 7 covariates. The full model explained 31.2% of variance in cognitive function.

QUALITATIVE FINDINGS (Phase 2 — Explanatory)

Five Communities | 27 Older Adults | Attride-Stirling Thematic Network | Six Verified NVivo Codebooks

Theme 1 — Family as the Only Care System

Family support was the most consistently referenced theme across all five communities. No participant referenced paid home care, a home health aide, or any institutional alternative. Family is not merely the preferred care option, it is the **only visible one**. When that system erodes, nothing replaces it.

"My wife, children, and grandchildren take care of me."

Theme 2 — Financial Strain and Care Fragility

Financial constraint was the most heavily coded theme overall. The reduced pensions, cutting household expenses, managing on small savings. Informal care is not only socially fragile. It is **economically fragile**.

"I had to cut down on my expenses."

Theme 3 — Physical Health Decline

Declining physical health and reduced quality of life in retirement were repeatedly coded alongside physical exercise as an active counterbalance. Health decline may mask cognitive change or delay help-seeking.

Theme 4 — Health Access and Self-Management

Participants described active self-management such as check-ups, medication routines, blood pressure monitoring, alongside NHIS access constraints. Early cognitive impairment may make self-management **unsafe** without a reliable caregiver present.

Theme 5 — Psychological Well-being: The Unprompted Signal

Emotional anxiety and fear of health complications were coded across multiple sites. Separately, one participant described joining neighbours to play draughts *"so I don't feel alone in the house"*. Without any question on isolation having been asked. This unprompted observation emerged under Coping Strategies (Dansoman). It is presented as an **emerging signal** for future research, not a confirmed finding.

Theme 6 — Coping, Activity and Social Participation

Church attendance, walking, visiting others, reading, and recreational games were coded as active coping strategies. These everyday activities may function as **low-cost protective resources, which is** a practical foundation for community-based intervention in the absence of formal care infrastructure.

INTEGRATION, CONCLUSIONS & IMPLICATIONS

What Both Phases Say Together

The quantitative phase establishes **what** the association is: social isolation independently predicts cognitive decline in a nationally representative urban Ghanaian sample. The qualitative phase explains **why**: family dispersal, urban isolation, and the complete absence of formal care infrastructure mean that when the social convoy erodes, it erodes entirely. There is no formal system waiting behind it.

Social isolation and weakening informal care are not background conditions of ageing in urban Ghana. They are active, compounding drivers of dementia-relevant vulnerability that current health and social policy does not yet name or address.

Global Significance
The Ghanaian case sharpens a finding now emerging across very different health systems: living with cognitive impairment is most dangerous precisely where formal support is least available. This is a warning for the rapidly ageing populations of sub-Saharan Africa.

Policy Implications

1. Integrate social isolation screening into routine primary health care assessments for older adults in urban settings
2. Leverage existing religious congregations, by engaging 95.2% of this sample, as a platform for structured social engagement programmes
3. Establish community check-in networks anchored in neighbourhood and faith structures
4. Recognise and support family caregivers, where dementia awareness and caregiver support are built into local health policy

5. Develop a national dementia and cognitive ageing strategy in Ghana that explicitly names social isolation as a modifiable risk factor

Limitations
Cross-sectional design precludes causal inference. Qualitative material originally collected for a broader healthy ageing study and re-analysed here. Analytical sample restricted to urban older adults. Social isolation measured by self-report items only. SAGE Wave 2 data pre-date COVID-19 pandemic disruptions.

Next Steps
Longitudinal studies to establish directionality. Planned Phase 3 qualitative inquiry with caregivers, health professionals, and social-care stakeholders. International collaborative work on Africa/Asia comparisons on living alone and cognitive impairment (in development).

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