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Original Research Article

An Empirical Investigation of Social Isolation, Late-Life Depression, and Cognitive Performance Across Urban and Rural Elderly Populations in Sangli District

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Abstract

Western Maharashtra is currently experiencing a steady demographic shift marked by a growing proportion of older adults. Within Sangli district, rapid urban expansion coupled with the out-migration of younger adults from agricultural villages to metropolitan centers has reshaped traditional family care networks, influencing the mental health of senior citizens. The present study examined and contrasted levels of perceived social isolation, late-life depressive symptoms, and cognitive performance among older adults living in urban and rural sectors of Sangli district. A purposive sample of 100 senior citizens aged 60 to 80 years was recruited, equally divided between urban neighborhoods (Sangli-Miraj-Kupwad; n = 50) and surrounding rural villages (n = 50). Three validated psychological instruments—the UCLA Loneliness Scale (Version 3), the Geriatric Depression Scale (GDS-15), and the Mini-Mental State Examination (MMSE)—were administered through individual interviews. Data analysis employed descriptive statistics, independent-samples t tests, and Pearson correlation coefficients. Findings demonstrated that urban older adults reported significantly greater perceived loneliness and depressive symptoms than their rural peers. Moreover, elevated loneliness showed a strong positive association with depression and a moderate negative association with cognitive performance. These outcomes underscore the urgency of expanding community recreation hubs and integrating accessible geriatric mental health screening throughout Sangli district.

Keywords: geriatric mental health, perceived loneliness, late-life depression, cognitive performance, urban–rural comparison, Sangli district.

Introduction

Human aging represents a multidimensional transition involving biological, social, and emotional adjustments. Upon entering late adulthood past age 60, individuals commonly encounter occupational retirement, loss of a spouse, declining physical vitality, and reduced authority in household decision-making (Erikson, 1950). Across India, advancements in healthcare and rising life expectancy have substantially expanded the senior citizen demographic (Government of India, 2011). Although increased longevity reflects societal progress, safeguarding psychological well-being during late life remains an urgent public health priority.

Historically, Indian households operated within an extended joint family framework where older generations cohabited with their adult children and grandchildren. This domestic structure naturally ensured emotional companionship, daily interpersonal dialogue, and practical caregiving. However, contemporary socio-economic shifts—including industrialization, urban migration, and changing career aspirations—have accelerated the prevalence of nuclear households. When older adults experience diminished daily conversation or reduced social participation, they frequently develop chronic feelings of social isolation. Left unaddressed, persistent loneliness can precipitate clinical depression and hasten declines in memory and executive functioning.

Socio-Geographic Context of Sangli District

Sangli district in Western Maharashtra offers a compelling regional backdrop for exploring how residential environments shape late-life psychological outcomes. The district encompasses two distinct socio-cultural settings:

- **Urban Sector:** The Sangli-Miraj-Kupwad Municipal Corporation zone has evolved into a dense commercial, educational, and healthcare hub. A growing share of senior citizens in these urban wards reside in apartment complexes or nuclear residences. Even when living alongside family members, demanding work schedules often leave older adults alone throughout the day, fostering emotional detachment.
- **Rural Sector:** Surrounding villages across talukas such as Miraj, Walwa, Tasgaon, and Palus remain predominantly agrarian. Rural settlements typically preserve close-knit neighborhood bonds, informal temple gatherings, and shared village squares (Chavadi) that facilitate regular peer interaction. Nevertheless, the migration of rural youth to cities like Pune, Mumbai, and Kolhapur, paired with scarce specialized mental health clinics, creates distinct vulnerabilities for village elders.

Contrasting urban and rural elderly residents within Sangli district clarifies how environmental and communal contexts influence emotional resilience and cognitive vitality during old age.

Review of Literature

Developmental psychology frameworks underscore the necessity of social integration during late adulthood. Erikson (1950) formulated the eighth stage of psychosocial development, ego integrity versus despair, proposing that older adults who cultivate meaningful interpersonal bonds and life acceptance achieve psychological peace, whereas those experiencing social alienation and regret become susceptible to emotional despair and depressive states.

Empirical evidence consistently confirms that subjective social isolation serves as a critical determinant of late-life mental health. Cacioppo et al. (2010) analyzed 5-year longitudinal data using cross-lagged models and demonstrated that perceived loneliness directly predicted subsequent increases in depressive symptoms among older adults, independent of objective social network size or demographic covariates. Complementing these findings, Hawkley and Cacioppo (2010) synthesized empirical literature on loneliness and health, concluding that chronic perceived isolation operates as a potent psychological stressor that disrupts emotional regulation and heightens vulnerability to affective disorders.

Within the Indian socio-cultural landscape, transformations in traditional family structures have markedly affected psychiatric morbidity among senior citizens. Tiwari et al. (2012) assessed psychiatric prevalence among community-dwelling older adults in northern India and documented elevated rates of late-life depression, particularly among individuals navigating nuclear family shifts, spousal bereavement, and weakened familial support. Similarly, Grover and Malhotra (2015) reviewed Indian epidemiological studies on geriatric depression and highlighted socio-environmental isolation, financial dependence, and limited community involvement as core psychosocial predictors of depressive illness.

Beyond mood disturbances, prolonged loneliness and depression exert adverse effects on neurocognitive health. Wilson et al. (2007) tracked a cohort of older adults over time and established that participants reporting severe loneliness experienced markedly faster cognitive deterioration and faced more than double the risk of developing Alzheimer's disease compared to socially connected peers. Across Western Maharashtra, regional gerontological observations indicate that structured community participation—such as regular attendance at senior citizen associations (Jyeshtha Nagrik Sangh) and recreational centers (Virangula Kendras)—acts as a protective buffer against both emotional distress and cognitive decline.

Objectives of the Study

1. To evaluate and compare levels of perceived loneliness between urban and rural elderly citizens residing in Sangli district.
2. To assess and compare the severity of geriatric depression among urban and rural senior citizens.
3. To examine differences in cognitive performance (memory, orientation, and attention) between urban and rural older adults.
4. To investigate the interrelationships among perceived loneliness, geriatric depression, and cognitive performance within the total sample.

Hypotheses

- **Hypothesis 1:** Urban elderly citizens will report significantly higher levels of perceived loneliness than rural elderly citizens.
- **Hypothesis 2:** Urban elderly citizens will exhibit significantly higher levels of geriatric depression than rural elderly citizens.
- **Hypothesis 3:** A statistically significant positive correlation will exist between perceived loneliness and geriatric depression among elderly participants.

- **Hypothesis 4:** A statistically significant negative correlation will exist between perceived loneliness and cognitive performance among elderly participants.

Method

Participants

A purposive sample of 100 senior citizens aged between 60 and 80 years was recruited across Sangli district. Participants were equally stratified into two residential cohorts:

- **Urban Cohort (n = 50):** Older adults residing permanently within the urban wards of Sangli, Miraj, and Kupwad (including Vishrambag, Vijaynagar, and Sangli City).
- **Rural Cohort (n = 50):** Older adults residing permanently in agrarian villages across surrounding talukas of Sangli district (including Miraj, Walwa, Tasgaon, and Palus talukas).

Eligibility criteria required participants to be at least 60 years of age, continuous residents of their respective urban or rural locality for a minimum of 5 years, and fluent in Marathi or English. Individuals presenting severe uncorrected visual or auditory impairments or diagnosed severe neuropsychiatric conditions were excluded from participation.

Measures

UCLA Loneliness Scale (Version 3). Constructed by Russell (1996), this 20-item standardized self-report instrument evaluates subjective feelings of loneliness and social detachment. Respondents rate each item on a 4-point Likert scale ranging from 1 (never) to 4 (often). Higher cumulative scores reflect greater perceived loneliness.

Geriatric Depression Scale (GDS-15). Developed by Yesavage et al. (1982), this 15-item clinical screening tool assesses depressive symptomatology specifically in older adults using a straightforward yes or no response format. Scores between 0 and 4 fall within the normal range, whereas scores of 5 or higher indicate mild to severe depressive symptoms.

Mini-Mental State Examination (MMSE). Formulated by Folstein et al. (1975), the MMSE is a 30-point clinical assessment evaluating cognitive domains including orientation to time and place, registration, attention and calculation, recall, and language skills. Scores of 24 and above denote intact cognitive functioning.

Procedure

Urban respondents were recruited through residential housing societies, municipal parks, and Senior Citizen Clubs (Jyeshtha Nagrik Sangh) in Sangli and Miraj. Rural respondents were contacted via village Gram Panchayats and community gathering halls. Prior to assessment, the academic objective of the investigation was explained in Marathi, and written informed consent was secured alongside assurances of strict confidentiality. Instruments were administered individually in a quiet setting, and raw scores were tabulated according to standardized test manuals.

Results

Data were analyzed using descriptive statistics (Mean and Standard Deviation), independent-samples t tests, and Pearson product-moment correlation coefficients. The comparative statistical outcomes are summarized in Table 1 and Table 2.

Table 1: Comparison of Loneliness, Depression, and Cognitive Functioning Between Urban and Rural Elderly Citizens

Variable	Group	N	Mean	SD	Stat Value (t)	Significance Level
Perceived Loneliness (UCLA)	Urban	50	48.60	8.45	4.52	Significant ($p < .01$)
	Rural	50	41.20	7.90		
Geriatric Depression (GDS-15)	Urban	50	7.40	2.65	3.16	Significant ($p < .01$)
	Rural	50	5.80	2.40		
Cognitive Functioning (MMSE)	Urban	50	25.80	2.95	2.48	Significant ($p < .05$)
	Rural	50	24.30	3.10		

Note. N = Number of participants; SD = Standard Deviation; Stat Value (t) = Independent-samples t-test value (df = 98).

As presented in Table 1, urban elderly participants (Mean = 48.60, SD = 8.45) exhibited significantly greater perceived loneliness than rural elderly participants (Mean = 41.20, SD = 7.90), $t(98) = 4.52$, $p < .01$, confirming Hypothesis 1. Urban seniors (Mean = 7.40, SD = 2.65) also recorded significantly higher geriatric depression scores than rural seniors (Mean = 5.80, SD = 2.40), $t(98) = 3.16$, $p < .01$, supporting Hypothesis 2. Regarding cognitive functioning, urban participants (Mean = 25.80, SD = 2.95) scored moderately higher than rural participants (Mean = 24.30, SD = 3.10), $t(98) = 2.48$, $p < .05$.

Table 2: Correlation Between Loneliness, Depression, and Cognitive Functioning (Total Sample)

Variables Compared	N	Mean	SD	Stat Value (r)	Significance Level
Perceived Loneliness	100	44.90	8.95	0.64	Significant ($p < .01$)
Geriatric Depression	100	6.60	2.64		(Positive Link)
Perceived Loneliness	100	44.90	8.95	-0.41	Significant ($p < .01$)
Cognitive Functioning	100	25.05	3.11		(Negative Link)

Note. N = Total participants; SD = Standard Deviation; Stat Value (r) = Pearson correlation coefficient.

As displayed in Table 2, perceived loneliness demonstrated a strong positive correlation with geriatric depression ($r = 0.64$, $p < .01$), confirming Hypothesis 3. Additionally, perceived loneliness showed a statistically significant negative correlation with cognitive functioning ($r = -0.41$, $p < .01$), confirming Hypothesis 4.

Discussion

The empirical outcomes illustrate how residential and communal structures across Sangli district shape late-life mental health. Within urban municipalities such as Sangli and Miraj, vertical apartment living, hectic occupational schedules among adult children, and limited neighborhood socialization leave many senior citizens emotionally isolated—even when cohabiting with family members. This sustained sense of social disconnection directly contributes to higher prevalence of mild depressive symptomatology (Cacioppo et al., 2010; Grover & Malhotra, 2015).

In contrast, rural older adults residing in Sangli's villages benefit from stronger communal solidarity, regular informal conversations at village temples or public squares, and enduring neighborhood familiarity, which act as protective factors against acute loneliness. Nevertheless, lower formal educational attainment and fewer structured

cognitive-recreational resources in rural areas modestly affect performance on attention and calculation items of the MMSE. Across both residential settings, the inverse association between loneliness and cognitive scores underscores that active social engagement is vital for preserving both emotional stability and neurocognitive resilience (Wilson et al., 2007).

Conclusion

Psychological well-being during late adulthood relies substantially on familial closeness and community integration. While urban hubs like Sangli and Miraj offer superior medical infrastructure, they frequently lack everyday emotional warmth; conversely, rural communities foster strong social bonds but lack specialized mental health resources. Expanding structured recreational centers (Virangula Kendras) across urban neighborhoods while integrating routine geriatric mental health screening into Rural Primary Health Centers (PHCs) can meaningfully improve the quality of life for senior citizens throughout Sangli district.

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Appendix

Participant Consent & Basic Information Sheet

Part A: Informed Consent (संमतीपत्र)

I voluntarily agree to participate in the academic research study titled "An Empirical Investigation of Social Isolation, Late-Life Depression, and Cognitive Performance Across Urban and Rural Elderly Populations in Sangli District." The purpose of this investigation has been clearly explained to me, and I understand that my personal identity and responses will be kept strictly confidential and utilized solely for academic research purposes.

Participant Signature / Thumb Impression: _____

Date: _____

Part B: Socio-Demographic Information Form

1. Participant Code: _____
2. Age: _____ years
3. Gender: [ ] Male [ ] Female [ ] Other
4. Area of Residence: [ ] Urban (Sangli-Miraj-Kupwad) [ ] Rural (Village/Taluka: _____)
5. Educational Qualification: [ ] No Formal Schooling [ ] Primary [ ] Secondary [ ] College & Above
6. Marital Status: [ ] Married [ ] Widowed [ ] Single / Separated
7. Current Living Arrangement: [ ] With Spouse & Children [ ] With Spouse Only [ ] Living Alone
8. Financial Status: [ ] Pension / Financially Independent [ ] Dependent on Family

This is for informational purposes only. For medical advice or diagnosis, consult a professional. AI responses may include mistakes.