



Living Arrangements and Economic Status of Left behind Parents in Rural West Bengal, India: a Study of Household Dynamics

Manoj Dakua¹ · Hemkhothang Lhungdim²

Accepted: 25 August 2025

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2025

Abstract

In Indian society, ‘filial piety’ or ‘seva’ is the norm, where younger family members, especially sons and grandchildren, care for older parents. In the past, older individuals were highly esteemed and were key to family decision-making, and they received social security support from the younger generation. Decreasing fertility and increasing adult migration have reduced the number of young generations to older adult care, especially in rural areas. The economic status of older parents and household dynamics influence living arrangements, which were independently explored in previous studies. Using micro-level survey data, this study describes household and economic dynamics and explores the perceptions of older parents who live alone or only with their spouses, aiming to identify the most suitable theoretical model(s) for understanding intergenerational relations in contemporary India. The study reveals that 28% of households were one-generation, 28% were two-generation, and 44% had three or more generations. About 29% of older parents lived alone or with only their spouse, whereas 37% of parents of migrants lived alone or with only their spouse. Furthermore, parents with migrant sons were more likely to live alone or only with their spouses. Parents who own farmland were less likely to live alone or only with their spouses. Economic stability and property ownership enable multiple generations to live alongside each other. Older parents prioritize their children’s well-being over personal comfort, often due to concerns about financial constraints, altruism, and family ties. Understanding these dynamics is crucial for policymakers and social service providers to create tailored initiatives for older individuals with diverse needs and preferences.

Keywords Filial piety · Altruism · Household dynamics · Economic stability

Extended author information available on the last page of the article

Introduction

There is a growing concern about older adult living arrangements in India, a growing ageing population with increasing life expectancy and rapid fertility decline. In developing countries like India, where access to social pensions and health insurance is still insufficient, family and community traditional support systems have become increasingly important to uphold the Indian tradition of respecting and caring for older parents (Sathyanarayana et al., 2014). Compared to Western countries, in India, the family is a cherished social institution for supporting and caring for older parents (Allendorf & Pandian, 2016). The younger members of the family, especially the children and grandkids, are thoroughly expected to take care of older parents (Rajan & Kumar, 2003). Older adults held great authority in ancient India and participated significantly in family decision-making (Bansod, 2011); they also benefited from other family members as social security (Rajan & Kumar, 2003). Co-residence between children and older adult parents in India accomplishes two things. The grandparents may assist in caring for the younger grandkids, and the children can tend to their parents' daily needs and health (Jadhav et al., 2013). Family bonding and social networks build a supportive community environment for older adults, allowing them to engage in religious and social activities, receive physical and psychological care, and contribute their wisdom, resources and harmony to foster mutual support and cooperation (Raju, 2014). Co-residence with children is significant for older adults' well-being but does not always guarantee a healthy relationship between generations. Younger generations may still provide social, emotional, and financial assistance to their older parents even in the absence of co-residence. However, not all parents may get this support from their offspring due to inadequate economic development and a lack of formal assistance for the older adults (Rajan & Kumar, 2003).

In Indian culture, the parent-children relationship is profoundly shaped by the concept of filial piety, akin to the tale of Shravan Kumar, who dutifully fulfilled his parents' desires, and this is the central pillar of Indian society, like in other Asian countries (Rao et al., 2003). This concept is similar to the word '*Seva*' in Indian culture (Sharma & Kemp, 2012), which is comparable to the Confucian norm of filial piety (Brasher, 2022). The concept highlights the importance of adult children expressing respect, obedience, and care for their older parents. In the strict sense of filial piety, a son should show deep respect for his parents. The responsibility for supporting the older parent is with the son(s), not the daughter. Assisting older parents with a daughter may be seen as a kind gesture. However, if the daughter refuses to support her older parents, parents should not call their daughter unfilial because she is a member of another family (Eklund, 2018). Parents nurture their children through altruism, corporate models, and mutual aid models. In the altruism principle, family members help each other without expecting anything in return, showing selfless care for one another (Punjvani, 2015; Sanadhya et al., 2010). The corporate principle involves allocating resources within the family to benefit everyone, sometimes leading to investing more in son education than daughter education in patriarchal societies (Emran et al., 2020; Kaul, 2018), with the expectation of returns in old age. The mutual aid principle focuses on short-term support, like grandparents car-

ing for grandchildren and allowing mothers to participate in the workforce (Akyol & Yilmaz, 2024; Frankenberg et al., 2002; Jadhav et al., 2013).

The past several decades have witnessed a demographic and socio-economic transformation in India, influencing the composition of Indian family structure and older adult living arrangements (Chakravorty et al., 2021; Rajan & Kumar, 2003). Prior research, both at the macro and micro levels, has shown that the number of older adult single-person households and older adult couple-only households is rapidly increasing while the size of households is decreasing (Nair & Kumar, 2017; Rajan & Kumar, 2003). This may be attributed to three factors. Firstly, many people are surviving longer into old age because of decreased death rates and advancements in medical technology. The second is the decrease in fertility which is caused by efficient family planning. Lastly, children leave their birthplace in search of work or employment. Most of the previous studies focused on factors of living arrangement (Panigrahi, 2010), living arrangement trends (Rajan & Kumar, 2003), and living arrangement association with older adult physical (Sarkar et al., 2023), mental health (Sarkar et al., 2023), and psychological well-being (Boro et al., 2023). There is very limited research in India on the relationship between household dynamics, economic status, and the living arrangements of older parents, particularly in the context of adult sons' migration. To fulfil this backdrop, this study aimed to address two main questions. First, focusing on household dynamics, the study aims to examine the characteristics of older parents who live alone or with their spouses, in contrast to those who reside with their children in a specific historical context. Secondly, the study also explores older parents' perceptions of living alone or only with their spouse, intending to explore the most suitable theoretical model(s) for understanding intergenerational relations in contemporary India.

To investigate these objectives, West Bengal was chosen as it ranks fourth in terms of migration for employment purposes after Uttar Pradesh, Bihar, and Rajasthan (Census of India, 2011); there is also a high rate of internal migration (UNESCO and UNICEF, 2012). West Bengal also ranks with the lowest TFR in India (IIPS & ICF, 2021), and a high proportion of older adults mainly reside in rural areas. Koch Bihar has the highest out-migration rate, and the majority of older adults reside in rural Koch Bihar (Debnath & Kumar Nayak, 2018). Therefore, more concern is directed towards the older adults who are left behind.

Koch Bihar was a kingdom ruled by the Koch Rajbanshi people from 1515, starting with King Biswa Singha, until 1949, when Jagaddipendra Narayana was in power (Dutta, 2011). The indigenous Rajbanshi people of Koch Bihar were the first to practice settled agriculture, but during colonial times, some of the agricultural lands were transferred to migrant populations, mainly Bengali and Marwari people, who came from different parts of the country (Bhattacharyya, 2009). After the 1947 partition, many Bengalis moved to North Bengal, and this is reflected in the census data, as Koch Bihar's population growth rate changed from negative 0.03% in 1931 to plus 4.31% in 1961. The native Rajbanshi people were significantly impacted by the 'Naxalbari revolt' in northern West Bengal after India's independence. The revolt, which began in May 1967, sought to liberate the poor from the oppressive rule of feudal landlords. As a result, the practices of the Rajbanshi jotdars were altered, and the 'jotedari system' gave way to the 'jotedari-adhiari system,' which

was characterized by a growing contradiction between capital and labour as a result of the influx of outsiders and a change in dynamics (Bhattacharyya, 2009; Sarkar, 2006). In 1986, the global coffee market declined due to environmental issues in Brazil's coffee fields, leading to a rise in tea demand. This created an opportunity for North Bengal, in the northeastern region of India, to switch to tea cultivation because of its favourable climate. However, rapid urbanization and industrialization forced native Rajbanshi landowners to give up their properties, as they could not compete with Bengalis and Marwaris who had migrated from other parts of the country and East Pakistan (Adhikary, 2018; Bhattacharyya, 2009). Also, the Land Acquisition Act in 1953, 1967, and 1978-81 reforms greatly affected Rajbanshi Jotedars (Adhikary, 2018). The transfer of land from the indigenous Rajbanshi people of North Bengal to the migrant people has changed their lifestyle and socio-economic status, significantly affecting the older adult residents of the area. Debnath and Kumar Nayak's (2018) study reveals that Koch Bihar had the highest out-migration growth rate (112%) in West Bengal, where almost 97% of out-migrants were male and remittances were typically the primary source of income for most households (Sinha, 2018).

Various theoretical frameworks explain the well-being of left-behind parents. The classical time allocation model (Becker, 1965) describes how individuals distribute their time for work, leisure, and caregiving activities. Despite the physical distance between migrant children and their left-behind parents, they can connect with them through telephone communication or visits (Gupta & Pillai, 2012). The family disruption model explains how individual duties and emotional connections among household members are connected (Bowen, 1966). Migration disrupts the emotional bonds between adult offspring and their older parents (Adhikari et al., 2011; Bhugra & Becker, 2005). The lack of direct caregiving from the migrant child may result in emotional and psychological suffering for the left-behind parents (Song, 2017). The new economics of labour migration model posits that migration is a household strategy designed to reduce financial pressures and diversify income sources (De Haas, 2010). Despite physical separation, remittances from the migrant child can enhance economic stability and elevate the overall well-being of the left-behind parents (Falkingham et al., 2017; Yi et al., 2019).

Methods

Data source and sampling design

This study is based on primary data from a cross-sectional survey conducted in the study area from March to June 2023. We surveyed the Koch Bihar district of West Bengal; we chose the district purposefully and employed a three-stage sampling method to reach our target population. In the first stage, we selected a subdivision using a simple random technique, followed by selecting villages using a random technique and individuals using the systematic random technique in the second and third stages. Koch Bihar district has five sub-divisions: Cooch Behar Sadar, Dinhata, Mathabhanga, Mekhliganj, and Tufanganj, which are further divided into

twelve blocks. We randomly chose the Tufanganj sub-division because the Koch Bihar district has uniform socio-economic and demographic characteristics. This subdivision has two blocks, and we categorized villages based on population size. From the Tufanganj-I and Tufanganj-II blocks, we selected ten and eight villages from each stratum using the probability proportion to size (PPS) method. Finally, we interviewed 250 parents of migrants and 250 parents of non-migrants using a systematic random sampling technique with a 99% response rate. In addition, we conducted 15 case studies, including six older parents who lived alone or only with their spouse, through interviews to gain insights into the perception of living alone among left-behind parents. These interviews followed appropriate research guidelines to ensure the validity and reliability of the information gathered.

Variable description

Outcome variable

The dependent variable in this research was the living arrangement, which was measured in binary form. The data on living arrangements was gathered by asking the question, “*With whom are you staying?*” which had responses of ‘alone,’ ‘with spouse only,’ ‘spouse with unmarried son/s,’ ‘spouse with married son/s,’ ‘unmarried son/s,’ ‘married daughter/s,’ ‘others relatives,’ ‘others.’ We categorized responses as ‘living alone or only with spouse’ (coded as 1) or ‘Co-residence with children and spouse or children or other relatives’ (coded as 0).

Explanatory variable

To examine the household dynamics of the study population, the survey gathered data on the usual family members, the number of living children, sons, and daughters of older parents, and how often they meet and talk with non-resident children. Households were grouped into different generations: ‘one-generation households,’ ‘two-generation households,’ and ‘three or more generation households,’ based on household member relationships to the head. Furthermore, households were classified into different categories based on the number of generations living together. These categories include ‘one-person only’ and ‘one couple only’ for single-generation households, ‘single parent & children’ and ‘one couple with children,’ ‘grandparent(s) & grandchild,’ and ‘separated parent and children’ for two-generation households. Furthermore, households with three or more generations can be categorized as ‘single grandparent, children, and grandchild’ and ‘grandparents, children, and grandchild.’ The study collected information on “visual contact with non-resident children” and “non-visual contact with children (phone calls)” using response options such as never, less than once a year, once or twice a year, every few months, once or twice a week, three or more times a week, and daily. For analysis purposes, the responses of never, less than once a year, and once or twice a year were grouped as ‘once or twice a year,’ while responses of every few months, once or twice a week, three or more times a week, and daily were grouped as ‘three or more than three times a year.’

Data on the economic status of the older parents was gathered, including a range of assets such as cash, savings in banks or post offices, insurance, property (plot and house), vehicles, cattle, and other holdings. Each response was recorded in binary format, indicating whether they had each asset (yes) or not (no). Following that, the analysis classified responses as ‘yes’ if they had any of the assets mentioned and ‘no’ if they did not have any of them. Additionally, data was collected regarding ownership of agricultural land, whether respondents had transferred all or parts of their property to others, and their current work status. Responses were recorded in binary form as yes or no. Furthermore, information was gathered on how respondents met their economic needs, including self-earning, bank balance, pension, and dependence on others. Analysis categorized responses into two categories: those who relied on self-earning/bank balance/pension in one group and those who depended on others in another group.

Socio-demographic characteristics

The respondent’s ages were classified into ‘60–64’, ‘65–69’, ‘70–74’, and ‘75+’. Their gender was categorized as either male or female. By using Principal Component Analysis (PCA), a score for household assets was generated. The Kaiser-Meyer-Olkin (KMO) test was used to evaluate the sufficiency of the sample, resulting in an overall KMO score of 0.83. The year of schooling was measured as a continuous variable. The marital status was gathered in a binary format, indicating whether the respondent was currently married.

Analytical approach

The study used descriptive statistics to provide insights into older parents’ household dynamics, living arrangements, and economic status. Bivariate analysis was used to investigate the association of living arrangements of older parents with their socio-economic status and their non-coresident children’s network in terms of meeting and talking frequency. The chi-square (χ^2) test assessed significant associations between living arrangements, socio-economic status, and the non-coresident children’s network. In addition, binary logistic regression was used to examine the association of living arrangements of older parents with their socio-economic status and their non-coresident children’s network as the binary outcome variable. The study included unadjusted and adjusted odds ratios with 95% confidence intervals. The statistical analyses were performed using STATA-17. In addition, qualitative insights were given to enhance comprehension of these relationships through phenomenography analysis. First, we transcribed the text data. Then, we used open coding on the translated text, identifying key phrases, expressions, and descriptions related to living alone or only with a spouse. Next, we grouped these descriptions into categories (axial coding) and built a central framework based on different experiences shared by older left behind parents. Finally, we explored the range of experiences using phenomenography analysis.

Ethical statement

Before the actual survey schedule was pretested, ethical clearance was taken from the Students' Research Ethics Committee of the International Institute for Population Sciences (IIPS). The purpose and procedure of the data collection were explained to obtain permission and cooperation from the district social welfare officer and the Gram Pradhan. Potential respondents to the study were approached and interviewed for their willingness to participate in this study, and the study objective, protocol of the study, and time requirement to complete the schedule were explained to them. Confidentiality and inconveniences to answer any question(s) they can skip or end the interview at any point in time were also explained to this potential respondent. The study did not offer any kind of incentives to the respondents to participate in the study survey.

Results

Background characteristics of aged 60 and above older parents in rural Koch Bihar, West Bengal

Table 1 presents the socio-economic and demographic characteristics of 495 older parents aged 60 and above with at least one living son, comprising 248 females and 247 males in this sample. Among them, 250 were older parents with at least one migrant son for employment purposes. Most of the parents (48.08%) belong to the 60 to 64 age group, the mean year of schooling was 2.32 years (95% CI: 2.06 to 2.58), and 61.21% were currently married. About 39% of parents of non-migrants were working, whereas 54.33% of parents of migrants were working. Approximately 11% of older parents live alone, while 15.35% of parents of migrants and their counterparts of parents of non-migrants is only 6.22%. Older parents' average household assets score was -0.55 (95% CI: -0.19 to 0.19). Among parents of migrants, it was -0.12 (95% CI: -0.41 to 0.17), and for the parents of non-migrants, it was 0.13 (95% CI: -0.13 to 0.39). Most of the older parents belong to the Scheduled Caste (69.25%) social categories; 76.57% of parents had three or more living children, and 44.04% had two sons and one living daughter, 40.81%.

Family household types of older parents aged 60 and above in rural Koch Bihar, West Bengal

Table 2 illustrates the family household types of older parents by generation. One-generation households accounted for 27.68%, with 9.09% being single-person households and 18.58% consisting of only one couple, with at least one person aged 60 and above. Among parents of migrants, one-person households were 12.20%, and one-couple households were 22.44%, whereas among parents of non-migrants, these percentages were 5.81% and 14.52%, respectively. Two-generational households represented 28.28%, with 8.28% being single-parent households with children and 19.19% consisting of one couple with their children or children with daughter-in-

Table 1 Background characteristics of older parents aged 60 and above in rural Koch bihar, West Bengal

	Parents of migrants		Parents of non-migrants		Total	
	Observation (N)/mean	Percentage (%)/95%CI	Observation (N)/mean	Percentage (%)/95%CI	Observation (N)/mean	Percentage (%)/95%CI
Age						
60–64	126	50.40	112	45.71	238	48.08
65–69	64	25.60	63	25.71	127	25.66
70–74	36	14.40	35	14.29	71	14.34
75+	24	9.60	35	14.29	59	11.92
Total	250	100.00	245	100.00	495	100.00
Sex						
Male	135	54.00	112	45.71	247	49.90
Female	115	46.00	133	54.29	248	50.10
Year of schooling						
Year of schooling	2.52	2.15–2.89	2.11	1.75–2.46	2.32	2.06–2.58
Currently working status						
Currently working	136	54.40	95	38.78	231	46.67
Currently not working	114	45.60	150	61.22	264	53.33
Marital status						
Currently married	155	62.00	148	60.41	303	61.21
Currently not married	95	38.00	97	39.59	192	38.79
Living arrangement						
Alone	39	15.60	15	6.12	54	10.91
With spouse only	53	21.20	39	15.92	92	18.59
With children only	78	31.20	115	46.94	193	38.99
With spouse and children	79	31.60	75	30.61	154	31.11
Others relative without children	1	0.40	1	0.41	2	0.40
Household Asset score						
Asset score	(-)0.12	(-)0.41–0.17	0.13	(-)0.13–0.39	(-)0.55	(-)0.19–0.19
Met economic need						
Self-earning/bank balance/pension	176	70.40	157	64.08	333	67.27
Depending on others	74	29.60	88	35.92	162	32.73
Old age Pension						
Yes	132	52.80	142	57.96	274	55.35
No	118	47.20	103	42.04	221	44.65
No. of living children						
1	13	5.20	14	5.71	27	5.45
2	51	20.40	38	15.51	89	17.98
3 and above	186	74.40	193	78.78	379	76.57
No of living son(s)						
1	68	27.20	82	33.47	150	30.30
2	113	45.20	105	42.86	218	44.04
3 and above	69	27.60	58	23.67	127	25.66

Table 1 (continued)

	Parents of migrants		Parents of non-migrants		Total	
	Observation (N)/mean	Percentage (%)/95%CI	Observation (N)/mean	Percentage (%)/95%CI	Observation (N)/mean	Percentage (%)/95%CI
No of living daughter						
0	52	20.80	42	17.14	94	18.99
1	112	44.80	90	36.73	202	40.81
2	58	23.20	80	32.65	138	27.88
3 or above	28	11.20	33	13.47	61	12.32

Scheduled caste (SC), Scheduled Tribe (ST), Other Backward Caste (OBC) source: Reseacher calculated from survey data

Table 2 Household dynamics of older parents aged 60 and above in rural Koch bihar, West Bengal

	Parents of migrants	Parents of non-migrants	Total
One generation households			
One-person only	12.20	5.81	9.09
One couple only	22.44	14.52	18.59
Sub total	34.65	20.33	27.68
Two generation households			
Single parent & children	7.48	9.13	8.28
One couple with children	18.50	19.92	19.19
Grandparent(s) & grandchild	0.39	0.83	0.61
Separated parent and children	0.39	0.00	0.20
Sub total	26.77	29.88	28.28
Three or more generation households			
Single grandparent, children and grandchild	17.72	24.90	21.21
Grandparents, children, and grandchild	20.87	24.90	22.83
Sub total	38.58	49.79	44.04
Grand total	100.00	100.00	100.00
Average household size	3.78	4.11	3.93

law or son-in-law. Very few households (0.61%) skipped generations. About 44% of households had three or more generations, with 49.79% being parents of non-migrants and 38.58% being parents of migrants. Among parents of migrants, 17.72% of households had a single grandparent, children, and grandchildren, and 20.87% had both grandparents, children, and grandchildren. The average household size was 3.93, with parents of migrants having a slightly smaller average household size of 3.78, compared to their counterparts with an average of 4.11.

Who lives alone or only with their spouse?

The traditional Indian family co-residence system typically involves older adult parents living with their spouse, children, and grandchildren. In the surveyed district, the majority of older adult parents reside either with their children only (38.99%) or with their spouse and children (31.11%) (Table 1). Table 3 depicts the economic status of older adult parents living alone or with only their spouse. Three out of every

Table 3 Older parents living alone or only with their spouse by economic status in rural Koch bihar, West Bengal

	Alone or with their spouse only	Co-residence with children and spouse or children or others relatives	$\chi^2 P$ Value
Assets ownership	<i>Total</i>		
None	33.33	66.67	
Yes	28.18	71.82	0.274
	<i>Parents of migrant</i>		
None	38.98	61.02	
Yes	36.92	63.08	0.774
	<i>Parents of non-migrant</i>		
None	28.36	71.64	
Yes	18.39	81.61	0.090
Having agricultural land	<i>Total</i>		
Yes	25.00	75.00	
No	34.01	65.99	0.028
	<i>Parents of migrant</i>		
Yes	34.13	65.87	
No	40.63	59.38	0.028
	<i>Parents of non-migrant</i>		
Yes	15.57	84.43	
No	26.89	73.11	0.032
Ever transferred all or part of your property to others	<i>Total</i>		
Yes	47.06	52.94	
No	26.70	73.30	0.001
	<i>Parents of migrant</i>		
Yes	61.76	38.24	
No	33.64	66.36	0.002
	<i>Parents of non-migrant</i>		
Yes	32.35	67.65	
No	19.32	80.68	0.085
Currently working status	<i>Total</i>		
Currently working	38.53	61.47	
Currently not working	21.59	78.41	< 0.001
	<i>Parents of migrant</i>		
Currently working	46.38	53.62	
Currently not working	26.72	73.28	0.001
	<i>Parents of non-migrant</i>		
Currently working	26.88	73.12	
Currently not working	17.57	82.43	0.085
Old age Pension	<i>Total</i>		
Yes	33.94	66.06	
No	23.98	76.02	0.016
	<i>Parents of migrant</i>		
Yes	43.70	56.30	
No	30.25	69.75	0.027
	<i>Parents of non-migrant</i>		

Table 3 (continued)

	Alone or with their spouse only	Co-residence with children and spouse or children or others relatives	χ^2P Value
Yes	24.46	75.54	0.143
No	16.67	83.33	
Met economic need	Total		
Self-earning/bank balance/pension	36.94	63.06	< 0.001
Depending on others	14.20	85.80	
	Parents of migrants		
Self-earning/bank balance/pension	45.81	54.19	< 0.001
Depending on others	17.33	82.67	
	Parents of non-migrants		
Self-earning/bank balance/pension	26.62	73.38	0.006
Depending on others	11.49	88.51	
Parents of migrant	37.40	62.60	
Parents of non-migrant	21.16	78.84	< 0.001
Total	29.49	70.51	

ten older parents lived alone or solely with their spouse, with a higher proportion among parents of migrants (four out of ten) compared to parents of non-migrants (two out of ten). Significant differences in this living arrangement were observed across agricultural land ownership, property transfer, working status, and household asset index groups. Among the older parents who owned agricultural property, 25% lived alone or with their spouse solely, while 34.01% of their counterparts did the same. When older parents transferred their property to others, the percentage of those living alone or solely with their spouse increased significantly to 47.06%, compared to 26.70% among those who did not transfer property. Regarding working status, 38.53% of currently working older parents lived alone or only with their spouse, with a higher percentage (46.38%) observed among parents of migrants. Additionally, 33.94% of older parents who had a social age pension lived alone or only with their spouse, while among parents of migrants, this figure was 43.70%. Among those older parents who met their economic needs through self-earning, bank balance, or pension, 36.94% lived alone or only with their spouse, compared to 45.81% among parents of migrants.

Table 4 shows the living arrangements of older parents aged 60 and above by their children's network. It was observed that around 30% of older parents who have one living child were living alone or only with their spouse. However, among parents of migrants, this percentage increased to 46.15%. Among parents of non-migrants, approximately 24.34% were living alone or only with their spouse. This figure decreased to 14.29% if they had only one living child. When older parents have one living son, 26% live alone or with their spouse. This percentage increases to 35.43% if they have three or more living sons. Among the parents of migrants, the proportion of living alone or only with their spouse increases from 26 to 40.58%. Conversely, this percentage decreases to 13.58% among parents of non-migrants if they have one living son. The increasing number of daughters reduced the percentage of living

Table 4 Older adults living alone or only with their spouse by children network in rural Koch Bihar, West Bengal

	Alone or with their spouse only	Co-residence with children and spouse or children or others relatives	$\chi^2 P$ Value
No. of living children			
Total			
1	29.63	70.37	
2	22.47	77.53	
3 and above	31.13	68.87	0.272
Parents of Migrants			
1	46.15	53.85	
2	33.33	66.67	
3 and above	37.89	62.11	0.668
Parents of non-migrants			
1	14.29	85.71	
2	7.89	92.11	
3 and above	24.34	75.66	0.062
No of living son(s)			
Total			
1	26.00	74.00	
2	28.44	71.56	
3 and above	35.43	64.57	0.207
Parents of Migrants			
1	40.58	59.42	
2	37.39	62.61	
3 and above	34.29	65.71	0.745
Parents of non-migrants			
1	13.58	86.42	
2	18.45	81.55	
3 and above	36.84	63.16	0.003
No of living daughter(s)			
Total			
0	23.40	76.60	
1	32.67	67.33	
2	32.61	67.39	
3 or above	21.31	78.69	0.153
Parents of Migrants			
0	32.69	67.31	
1	39.47	60.53	
2	45.76	54.24	
3 or above	20.69	79.31	0.115
Parents of non-migrants			
0	11.90	88.10	
1	23.86	76.14	
2	22.78	77.22	
3 or above	21.88	78.13	0.444
Non co-residence Children network			
Total			
Once or twice in a year	37.38	62.62	
Three or more times in a year	27.32	72.68	0.043

Table 4 (continued)

	Alone or with their spouse only	Co-residence with children and spouse or children or others relatives	χ^2P Value
Non-Visual Network			
Once or twice in a year	29.67	70.33	0.968
Three or more times in a year	29.46	70.54	
Parents of Migrants			
Non co-residence Children network			
Visual Network			
Once or twice in a year	35.35	64.65	0.590
Three or more times in a year	38.71	61.29	
Non-Visual Network			
Once or twice in a year	66.67	33.33	0.008
Three or more times in a year	35.17	64.83	
Parents of non-migrants			
Non co-residence Children network			
Visual Network			
Once or twice in a year	62.50	37.50	0.004
Three or more times in a year	19.74	80.26	
Non-Visual Network			
Once or twice in a year	20.55	79.45	0.878
Three or more times in a year	21.16	78.57	

alone or only with their spouses among older parents. Approximately 33% of older parents were living alone or only with their spouse if they have one living daughter, but this percentage decreases to 21.31% if they have three or more living daughters. This reduction is highly visible among parents of migrants, where the percentage decreases from 39.47 to 20.69%. Meetings and talking frequency with their non-co-resident children significantly influence the living arrangements of older parents. Older parents with at least three visual meetings with their non-co-residing children were found to have around 27% living alone or with their spouse. This percentage increases to 37% for those with one or two visual contacts in a year and notably rises to 62% among parents of non-migrants. Contrarily, among parents of migrants, increasing the number of visual contacts reduces the percentage of those living alone or only with their spouse. Approximately 62% of the parents of migrants who have visual contact once or twice a year live alone or only with their spouse. However, this percentage decreases to 35% among those who have visual contact three or more times a year.

Table 5 demonstrates the binary logistic regression estimates the odds ratio for older parents living alone or only with their spouses. The study showed that parents of migrants had 3.11 times greater (aOR: 3.11; 95% CI: 1.63–5.91; $P \leq 0.01$) likelihood of living alone or only with their spouse compared to parents of non-migrants. This association remained significant even after accounting for socio-demographic characteristics. Having agricultural land of older parents reduced the probability of living alone or only with their spouse by 0.39 times (uOR: 0.39; 95% CI: 0.23–0.67; $P \leq 0.01$) less than their counterparts, and this probability was

[illegible]

Table 5 (continued)

Background	Model-I				Model-II			
	Parents of migrants		Parents of non-migrants		Parents of migrants		Parents of non-migrants	
	uOR	95% CI	uOR	95% CI	aOR	95% CI	aOR	95% CI
No of living son(s)								
1	1.47	0.51–4.21	0.29**	0.09–0.88	0.62	0.30–1.27	2.18	0.54–8.75
2	1.19	0.60–2.35	0.39**	0.17–0.86	0.71	0.43–1.17	0.98	0.38–2.51
3 and above @								
No of living daughter(s)								
0@								
1	1.51	0.59–3.87	2.77	0.71–10.74	1.93	0.93–4.00	1.86	0.53–6.53
2	1.80	0.55–5.89	2.10	0.48–9.17	1.90	0.80–4.52	2.72	0.56–13.10
3 or above	0.60	0.15–2.45	1.98	0.36–10.96	0.98	0.36–2.69	1.48	0.23–9.39
Visual Network								
Once or twice in a year	0.82	0.47–1.44	7.99**	1.54–41.39	1.61**	1.02–2.58	0.55	0.26–1.15
Three or more times in a year@								
Non-Visual Network								
Once or twice in a year	4.12***	1.44–11.74	0.95	0.41–2.17	1.06	0.62–1.81	0.61	0.13–2.68
Three or more times in a year @								
Household assets								
Assets score								
Age								
60–64					0.47***	0.36–0.59	0.27***	0.18–0.42
65–69					1.28	0.34–4.51	4.31	0.45–41.03
70–74					1.20	0.32–4.51	4.84	0.55–42.55
≥75@					1.21	0.27–5.41	4.83	0.48–48.31
Years of Schooling								
Years of schooling					1.38***	1.16–1.64	1.23	0.97–1.58
								1.15–1.47

Table 5 (continued)

Background	Model-I				Model-II			
	Parents of migrants		Parents of non-migrants		Parents of migrants		Parents of non-migrants	
	uOR	95% CI	uOR	95% CI	aOR	95% CI	aOR	95% CI
Marital status								
Currently married								
Currently not married [@]					1.99	0.75–5.25	5.63**	1.42–22.30
Sex								
Male								
Female [@]					0.14**	0.03–0.56	0.61	0.11–3.20
uOR Unadjusted Odd Ratio, aOR Adjusted Odd Ratio, @ reference category; ** if $p \leq 0.05$; *** if $p \leq 0.001$, CI 95% confidence interval								
Total								
aOR								
95% CI								
1.19–4.95								
0.11–0.72								
2.43**								
1.42–22.30								

reduced by 0.47 times (uOR: 0.47; 95% CI: 0.24–0.93; $P \leq 0.05$) among parents of migrants. Further, if older parents transferred all or part of their property to others, their likelihood of living alone or with spouse only increased 3.69 times (aOR: 3.69; 95% CI: 1.68–8.14; $P \leq 0.01$) than their counterparts, this likelihood increased by 6.10 times (aOR: 6.10; 95% CI: 1.90–19.56; $P \leq 0.001$) among parents of migrants even after adjusting of socio-demographic characteristics. The likelihood of living alone or only with their spouse was 2.31 times (uOR: 2.31; 95% CI: 1.37–3.91; $P \leq 0.01$) higher those older parents were currently working than their counterparts, and this likelihood was 2.09 times (uOR: 2.09; 95% CI: 1.03–4.22; $P \leq 0.01$) higher among parents of migrants. The likelihood of living alone or only with their spouse was 2.99 times (uOR: 2.99; 95% CI: 1.11–8.04; $P \leq 0.05$) higher among parents of migrants who meet their economic needs either by self-earning/bank balance/government pension than those who depended on others, even after accounting for socio-demographic characteristics. Among parents of non-migrants, the likelihood of living alone or only with their spouse was 0.05 times (aOR: 0.05; 95% CI: 0.008–0.32; $P \leq 0.01$) lower for those who have one living son compared to those who have three or more living sons. The likelihood of older parents living alone or only with their spouse increases with the number of living daughters. The likelihood of living alone or only with their spouse was 2.80 times (aOR: 2.80; 95% CI: 1.06–7.41; $P \leq 0.05$) higher among those who have one living daughter and 3.61 times (aOR: 3.61; 95% CI: 1.12–11.57; $P \leq 0.05$) higher among those who have two living daughters compared to those who did not have any living daughter. The magnitude of meeting and talking with non-resident children significantly impacts older parents' living arrangements. The likelihood of living alone or only with a spouse was only 1.61 times (uOR: 1.61; 95% CI: 1.02–2.58; $P \leq 0.05$) higher among older parents with a once or twice a year meeting frequency than those with three or more times a year. Consequently, among the parents of migrants, the likelihood of living alone or only with a spouse was 4.12 times (uOR: 4.12; 95% CI: 1.44–11.74; $P \leq 0.01$) more than those who talk once or twice a year and those who talk three or more times a year. For older parents, every unit increase in household assets score reduces the likelihood of living alone or only with their spouse by 0.41 times (aOR: 0.41; 95% CI: 0.33–0.50; $P \leq 0.01$). Similarly, for parents of migrants, every unit increase in household assets score decreases this likelihood by 0.47 times (aOR: 0.47; 95% CI: 0.36–0.59; $P \leq 0.01$). Additionally, currently married parents were 2.43 times (aOR: 2.43; 95% CI: 1.19–4.95; $P \leq 0.05$) more likely to live alone or only with their spouse than parents who were not currently married. Older fathers were 0.29 times (aOR: 0.29; 95% CI: 0.11–0.72; $P \leq 0.05$) less likely to live alone or with only their spouse than older mothers. Among parents of migrants, this likelihood was 0.14 times (aOR: 0.14; 95% CI: 0.03–0.56; $P \leq 0.05$) less.

Perceptions of living alone or only with their spouse among older left-behind parents

In Western society, individual interest and self-realization are the main priorities for active ageing, in contrast to traditional Indian culture, where filial piety is the central pillar of older parents' care. But what about older parents living alone or

only with their spouse in India? How do they feel about their living situation, where filial piety is the main societal culture? Many of the older parents in our study area live alone or only with their spouse because their adult son(s) migrated to another place for employment purposes. Older parents often explain their decision to live alone or only with their spouse due to financial limitations and their prioritization of certain needs. Financial limitations of the family and older parents' perception of living alone or only with their spouse were explained by their altruism to their children, as in the case of a 79-year-old basic literate father who was currently married. He explains their parenting as altruistic, *"When my children were young, I worked hard in labour to provide for their basic needs. However, I never expected anything in return for my efforts."* Despite economic limitations, older parents prioritize their children's well-being and independence, even if they need to sacrifice their comfort or desires. In the case of the 74-year-old illiterate father, *"Sons are working as labour; they have to feed their families. We both work as long as we can."* A 79-year-old basic literate father said, *"Sons working as migrant labour, we don't want to increase sons' burden. They help us if needed."* This illustrates an altruistic devotion to their children's future. The decision of older parents to live alone rather than with married sons is ascribed to dissatisfying or tense interpersonal dynamics within the son's household. Their living alone priority is raised because of different lifestyles and conflicting values that make co-residence unbearable with married sons. A 67-year-old widow mother expressed, *"It's better to live alone in peace rather than in conflict with my daughter-in-law, as there are lots of things I dislike."* Additionally, reducing independence and autonomy later in life influences their preference for living alone. A 67-year-old widow mother said, *"I live alone, I can do whatever I want, and I can go anywhere, which is not possible if I live with married sons"* (Table 6).

Another 67-year-old widow mother who was a primary school teacher expressed his priorities for living alone, and we divided her staying alone into two ways. On the one hand, she expressed her social capital in her home place, *"I've chosen to stay in my own home for as long as I can manage. I have a strong bond with my neighbours, who readily offer assistance whenever needed. The sense of community here is strong, and we often visit each other's homes to share our situations."* Another justification for living alone was a deep attachment to their husband's birthplace: *"This is my father-in-law's birthplace; I wish to be laid to rest here."* On the other hand, she expressed some push factors like fear of becoming lonely in her son's home. She said, *"I find building the same kind of close relationships and conversations with neighbours in urban areas difficult."* These examples of older parents are those who live alone or only with their spouse and prioritize their own interests.

Discussion

The older adult population in India is growing due to increasing life expectancy and rapid decreases in birth rates (IIPS et al. 2020). The extensive migration of adults resulted in a significant number of older adult parents living alone (Bailey et al., 2018). As a result, there is a growing concern about older adults living alone in India.

Table 6 Family composition and older parents of migrants living alone or only with their spouse

Age	Sex	Marital status	Education	Employment status	No. of Children	Children living and working status	Living arrangement of elderly parents	Sources of economic meet
67	Female	Widow	10th pass	Retried primary school teacher	Two sons	Both sons live in the same state along with their family. One is government employee and another is private employee	Living alone	Retried pension and income generated from agricultural land given Leased.
79	Male	Currently married	Class three	Working as a bidi worker	Three sons and one daughter	Two sons work as migrant labourers outside the state, but their family is in same locality. Another son resides in the same locality with his family and is employed as a labourer.	Only with spouse	Old age pension and minimum money from bidi factory
67	Female	Widow	Class three	Not working for money	Three sons and one daughter	Two sons lived separately with their families: one worked as a marginal farmer while the other worked as a labourer. Another son serves in the army, and his family resides in a nearby town.	Alone	Widow pension and Daughter helped.
65	Male	Currently married	Class four	Farmer	Two sons and two daughters	Both sons live in Delhi with their family permanently and working as a tailor.	Only with spouse	Remittance and farming
74	Male	Currently married	Illiterate	Making bamboo products and selling them	Two sons and two daughters	Sons lived with his family separately and working as a labour.	Only with spouse	Old age pension
61	Male	Separated (not legally)	Illiterate	Working as a labour	One son and one daughter	Sons (unmarried) working as a migrant labour	Alone	Self-earning

This study examines household dynamics and economic status associated with older parents' living arrangements with a specific reference to son migration. Using phenomenography analysis also provides a deeper understanding of how older parents of migrants perceive their living alone or only with their spouse.

This study's results provide insight into the complex household and economic dynamics that affect the living arrangements of older parents aged 60 and above in rural West Bengal. Firstly, this study revealed that about 29% of older parents live alone or only with their spouse, consistent with the results from LASI (IIPS et al., 2020). The figure highlights the changing family structures in India, where traditional co-residence patterns are being transformed due to triggers such as urbanization, migration for work, and economic limitations (Chakravorty et al., 2021). Their socio-economic status and household dynamics significantly influence the living arrangements of older parents. Ownership of agricultural land has a crucial role in determining living arrangements. Parents who own land are less likely to live alone or only with their spouse. Economic stability and property ownership enable multiple generations to live alongside each other. A countrywide study further supported this finding (Singh et al., 2023). Furthermore, the research emphasizes the influence of adult migration on older adult parents' living arrangements. Parents with migrant sons for employment purposes are more likely to live alone or only with their spouse, indicating the disruptive influences of sons' migration on familial cohesion and support structures. Findings on adult migration and the living arrangements of older adult parents were consistent with previous studies (Bailey et al., 2018; Jadhav et al., 2013; Sarkar et al., 2023). Economic factors, such as working status and reliance on self-earning/bank balance/pensions, also influence the likelihood of living alone or only with their spouse among older parents, with migrants being particularly vulnerable to such living alone or only with their spouse. This finding contradicts national-level studies (Jadhav et al., 2013; Kumar & Kumar, 2019) because most respondents came from poorer backgrounds and were involved in daily labour.

Moreover, the research examines the attitudes and incentives that drive older parents to choose to live alone or only with their spouse. Although cultural expectations promote the values of filial piety and intergenerational co-residence (Gangopadhyay, 2022), a significant number of older parents prioritize the well-being of their children over their own comfort and personal preferences. Financial limitations, altruism towards their children, and worries about impaired family ties were key factors influencing the decision to live alone or only with their spouse (Cong & Silverstein, 2011; Jadhav et al., 2013; Vera-Sanso, 1999). Where filial piety was the central pillar with a cultural background, parents of migrants, despite financial limitations, perceive their living alone situation with altruistic views towards their children, which shows filial piety or *seva* traditional norms transforming to altruistic views. Furthermore, older parents' individual preferences, social capital (friends, neighbourhood), and attachment to ancestral roots also shape the decision-making process of older parents regarding their living arrangements (Asztalos Morell et al., 2023). While many individuals like the feeling of belonging and independence that comes with living alone (Asztalos Morell et al., 2023), others have concerns about feelings of isolation and the difficulties of assimilating (Kotian et al., 2018).

Strengths and limitations

The study's key strength was that it provides a holistic view of household dynamics and economic status with the living arrangements of older parents in rural West Bengal, India. This study used robust statistical analysis to examine the association between household dynamics, economic status, and living arrangements among older parents. Furthermore, the study also focused on older parents living alone or only with their spouse through phenomenographic analysis. Despite these strengths, this study had some drawbacks. We could not establish causal relationships between household dynamics, economic status, and living arrangements among older parents because the study was based on cross-sectional data. The study focuses exclusively on rural West Bengal, India, which may limit the generalizability of findings to other geographic areas or cultural contexts. The research may not comprehensively include external factors, such as cultural norms and community support networks, that might impact older parents' living arrangements.

Conclusion

This research highlights the intricate interaction between economic, cultural, and individual factors that influence the living arrangements of older adult parents in rural areas of India. Comprehending these dynamics is essential for policymakers and social service providers to create focused initiatives that assist older individuals with different needs and preferences of older parents in familial and societal contexts.

Funding We did not receive any grants from any funding agency in the public, commercial, or non-profit sectors for conducting this study.

Data Availability The study is based on primary data only.

Declarations

Ethics Approval and Consent to Participate Before the actual survey schedule was pretested, ethical clearance was taken from the Students' Research Ethics Committee of the International Institute for Population Sciences (IIPS). The purpose and procedure of the data collection were explained to obtain permission and cooperation from the district social welfare officer and the Gram Pradhan. Potential respondents to the study were approached and interviewed for their willingness to participate in this study, and the study objective, protocol of the study, and time requirement to complete the schedule were explained to them. Confidentiality and inconveniences to answer any question(s) they can skip or end the interview at any point in time were also explained to this potential respondent. The study did not offer any kind of incentives to the respondents to participate in the study.

Consent for Publication Not Applicable.

Competing interests We declare that we have no competing interests.

References

- Adhikari, R., Jampaklay, A., & Chamratrithirong, A. (2011). Impact of children's migration on health and health care-seeking behavior of elderly left behind. *BMC Public Health*, 11, 1–8. <https://doi.org/10.1186/1471-2458-11-143>
- Adhikary, M. C. (2018). Economic status of the Rajbanshis of Northern part of West Bengal in post independent period land holders of North Bengal. *International Journal of Humanities and Social Science Invention*, 7(10), 18–26. [http://www.ijhssi.org/papers/vol7\(10\)/Version-1/D0710011826.pdf](http://www.ijhssi.org/papers/vol7(10)/Version-1/D0710011826.pdf)
- Akyol, P., & Yilmaz, Z. (2024). Effects of grandmothers' proximity on mothers' labour force participation*. *Oxford Bulletin of Economics and Statistics*. <https://doi.org/10.1111/obes.12600>
- Allendorf, K., & Pandian, R. K. (2016). The decline of arranged marriage?? Marital change and continuity in India. *Population And Development Review*, 42(3), 435–464. <https://doi.org/10.1111/j.1728-4457.2016.00149.x>
- Asztalos Morell, I., De, S., Johansson, C., & Gustafsson, L. K. (2023). Middle-class older adults living alone in urban India: Older adults' understandings of ageing alone. *Journal of Religion, Spirituality & Aging*, 36(1), 86–111. <https://doi.org/10.1080/15528030.2022.2164395>
- Bailey, A., Hallad, J., & James, K. S. (2018). They had to go: Indian older adults' experiences of rationalizing and compensating the absence of migrant children. *Sustainability (Switzerland)*, 10(6), 1–15. <https://doi.org/10.3390/su10061946>
- Bansod, D. W. (2011). Status, Decision-Making role and expectations of older persons in rural maharashtra, India. *Asia-Pacific Population Journal*, 26 (2), 3–19.
- Becker, G. (1965). The economic journal a theory of the allocation of time. *The Economic Journal*, 75(299), 493–517.
- Bhattacharyya, M. G. (2009). The story of the lives and sufferings of the Rajbanshis of North Bengal. *Voice of Dalit*, 2(2), 127–140. <https://doi.org/10.1177/0974354520090201>
- Bhugra, D., & Becker, M. A. (2005). Migration, cultural bereavement and cultural identity. *World Psychiatry*, 4(1), 18–24.
- Boro, B., Srivastava, S., & Saikia, N. (2023). Is there an association between change in Old-Age living arrangements and older adults' psychological health and subjective well-being in India?? Evidence from a cross-sectional study. *Ageing International*, 48(1), 281–300. <https://doi.org/10.1007/s12126-021-09470-6>
- Bowen, M. (1966). The use of family theory in clinical practice. *Comprehensive Psychiatry*, 7(5), 345–374. [https://doi.org/10.1016/S0010-440X\(66\)80065-2](https://doi.org/10.1016/S0010-440X(66)80065-2)
- Brasher, M. S. (2022). Filial norms, altruism, and reciprocity: Financial support to older parents in China. *Journal of Population Ageing*, 15(1), 259–277. <https://doi.org/10.1007/s12062-020-09316-0>
- Census of India. (2011). *Population finder 2011*. The Ministry of Home Affairs.
- Chakravorty, S., Goli, S., & James, K. S. (2021). Family demography in India: Emerging patterns and its challenges. *SAGE Open*. <https://doi.org/10.1177/21582440211008178>
- Cong, Z., & Silverstein, M. (2011). Intergenerational exchange between parents and migrant and nonmigrant sons in rural China. *Journal of Marriage and Family*, 73(1), 93–104. <https://doi.org/10.1111/j.1741-3737.2010.00791.x>
- De Haas, H. (2010). Migration and development: A theoretical perspective. *International Migration Review*, 44(1), 227–264. <https://doi.org/10.1111/j.1747-7379.2009.00804.x>
- Debnath, M., & Kumar Nayak, D. (2018). Rural out-migration across agro-climatic regions in West Bengal Out-Migration From Rarh Region View project. *Hill Geographer*, XXXII(2), 59–75. <https://www.researchgate.net/publication/324222311>
- Dutta, D. (2011). *Numismatic Evidence on the Chronology and Succession of the Rulers of the Kingdom of Kamta-Koch Behar*. 4, 52–57.
- Eklund, L. (2018). Filial daughter?? Filial son?? How China's young urban elite negotiate intergenerational obligations. *Nora - Nordic Journal of Feminist and Gender Research*, 26(4), 295–312. <https://doi.org/10.1080/08038740.2018.1534887>
- Emran, M. S., Jiang, H., & Shilpi, F. (2020). Gender bias and intergenerational educational mobility: Theory and evidence from China and India. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3555501>
- Falkingham, J., Qin, M., Vlachantoni, A., & Evandrou, M. (2017). Children's migration and lifestyle-related chronic disease among older parents 'left behind' in India. *SSM - Population Health*, 3(January), 352–357. <https://doi.org/10.1016/j.ssmph.2017.03.008>

- Frankenberg, E., Lillard, L., & Willis, R. J. (2002). Patterns of intergenerational transfers in Southeast Asia. *Journal of Marriage and Family*, 64(3), 627–641. <https://doi.org/10.1111/j.1741-3737.2002.00627.x>
- Gangopadhyay, J. (2022). Eldercare, Filial Piety within the Joint Family System of Urban India. In *Eldercare Issues in China and India* (pp. 31–52). Routledge. <https://doi.org/10.4324/9781003254256-4>
- Gupta, R., & Pillai, V. K. (2012). Elder caregiving in south-Asian families in the United States and India. *Social Work and Society*, 10(2), 1–16.
- IIPS & ICF (2021). National Family Health Survey (NFHS-5), 2019–21: India. http://rchiips.org/nfhs/NFH5-5Reports/NFHS-5_INDIA_REPORT.pdf
- International Institute for Population Sciences (IIPS), NPHCE, MoHFW, & HSPH (2020). *Longitudinal Ageing Study in India (LASI) Wave 1, 2017–18, India Report*. http://iipsindia.org/research_lasi.htm
- Jadhav, A., Sathyanarayana, K. M., Kumar, S., & James, K. S. (2013). Living Arrangements of the Elderly in India: Who lives alone and what are the patterns of familial support? *Session 301: Living Arrangement and Its Effect on Older People in Ageing Societies IUSSP 2013 Busan, Korea*. https://iussp.org/sites/default/files/event_call_for_papers/301_Jadhavetal_0.pdf
- Kaul, T. (2018). Intra-household allocation of educational expenses: Gender discrimination and investing in the future. *World Development*, 104, 336–343. <https://doi.org/10.1016/j.worlddev.2017.12.017>
- Kotian, D. B., Mathews, M., Parsekar, S. S., Nair, S., Binu, V. S., & Subba, S. H. (2018). Factors associated with social isolation among the older people in India. *Journal of Geriatric Psychiatry and Neurology*, 31(5), 271–278. <https://doi.org/10.1177/0891988718796338>
- Kumar, S., & Kumar, K. A. (2019). Living arrangement and economic dependency among the elderly in India: A comparative analysis of EAG and Non EAG States. *Ageing International*, 44(4), 352–370. <https://doi.org/10.1007/s12126-019-9344-3>
- Nair, S. B., & Kumar, S. S. (2017). Ageing in kerala: Some key issues. *Indian Journal of Gerontology*, 31(2), 209238.
- Panigrahi, A. K. (2010). Determinants of living arrangements of elderly in orissa, india: An analysis. *Asia-Pacific Population Journal*, 25(2), 97–131. <https://doi.org/10.18356/3a258644-en>
- Punjvani, M. B. (2015). Effect of parenting styles and different family income on altruism in adolescents. *International Journal of Indian Psychology*, 2(3). <https://doi.org/10.25215/0203.057>
- Rajan, S. I., & Kumar, S. (2003). Living arrangements among Indian elderly new evidence from National family health survey. *Economic & Political Weekly*, 38(1), 75–80.
- Raju, S. S. (2014). Studies on ageing in india: A review. *Population ageing in India* (pp. 180–214). Cambridge University Press. <https://doi.org/10.1017/CBO9781139683456.009>
- Rao, N., McHale, J. P., & Pearson, E. (2003). Links between socialization goals and child-rearing practices in Chinese and Indian mothers. *Infant and Child Development*, 12(5), 475–492. <https://doi.org/10.1002/icd.341>
- Sanadhya, R., Sharma, D., & Sushil, C. (2010). A comparative study of altruism among the boys and girls of joint and nuclear family. *Indian Journal of Psychiatry*, 52(SUPPL. 1), S34.
- Sarkar, I. (2006). The Kamtapur Movement: Towards a Separate State in North Bengal. In *Tribal Development In India: The Contemporary Debate*.
- Sarkar, M., Kasemi, N., Majumder, M., Sk, M. A., Sarkar, P., Chowdhury, S., Roy, D., & Halder, M. (2023). Physical and mental health among older parents: Does offspring migration and living arrangement matter? Findings from Longitudinal Aging Survey in India (2017–18). *SSM - Population Health*, 24, Article 101503. <https://doi.org/10.1016/j.ssmph.2023.101503>
- Sathyanarayana, K. M., Kumar, S., & James, K. S. (2014). Living arrangements of elderly in india: Policy and programmatic implications. *Population Ageing in India*, 74–95. <https://doi.org/10.1017/CCO9781139683456.005>
- Sharma, K., & Kemp, C. L. (2012). One should follow the wind: Individualized filial piety and support exchanges in Indian immigrant families in the United States. *Journal of Aging Studies*, 26(2), 129–139. <https://doi.org/10.1016/j.jaging.2011.10.003>
- Singh, S. K., Srivastava, S., Sinha, D., Kumar, P., Shankar Mishra, P., & Muhammad, T. (2023). Does Socio-economic inequality exist in One-person household among older adults in india?? Evidence from National family health survey, 2015–16: Does Socio-economic inequality exist in One-person household among older adults in india?. *Ageing International*, 48(2), 669–686. <https://doi.org/10.1007/s12126-022-09497-3>
- Sinha, K. C. (2018). *Impact of migration on Koch Rajbanshi community of Koch Behar district*. International Institute for Population Sciences.

- Song, Q. (2017). Aging and separation from children: The health implications of adult migration for elderly parents in rural China. *Demographic Research*, 37(1), 1761–1792. <https://doi.org/10.4054/DemRes.2017.37.55>
- UNESCO and UNICEF (2012). Internal Migration in India Initiative National Workshop on Internal Migration and Human Development in India. In *National Workshop on Internal Migration and Human Development in India*.
- Vera-Sanso, P. (1999). Dominant daughters-in-law and submissive mothers-in-law? Cooperation and conflict in South India. *The Journal of the Royal Anthropological Institute*, 5(4), 577. <https://doi.org/10.2307/2661149>
- Yi, F., Liu, C., & Xu, Z. (2019). Identifying the effects of migration on parental health: Evidence from left-behind elders in China. *China Economic Review*, 54(November 2017), 218–236. <https://doi.org/10.1016/j.chieco.2018.11.005>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.

Manoj Daku Doctoral fellow at the International Institute for Population Sciences in Mumbai. Research focuses on several areas: Public Health, Ageing, Social Connections within Ageing Societies, and Migration. Additionally, possess expertise in various analytical and data-collection software tools.

Hemkothang Lungdim Recently held the position of professor in the public health and mortality studies department at the International Institute for Population Sciences in Mumbai. Research focuses on several areas: Public Health, Ageing, Social Connections within Ageing Societies, and Migration. Additionally, possess expertise in various analytical and data-collection software tools.

Authors and Affiliations

Manoj Daku¹  · Hemkothang Lungdim²

✉ Manoj Daku
mdaku.tfg@gmail.com

✉ Hemkothang Lungdim
lungdim.hem@iipsindia.ac.in

¹ International Institute for Population Sciences, Mumbai 400088, India

² Department of Public Health and Mortality studies, International Institute for Population Sciences, Mumbai 400088, India