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Multilevel Resource Capacity and Inequality in Community Eldercare Access Among Older Adults in China: Household Living Arrangements as Conditional Contexts

Xi Chen [1], Rahimah Ibrahim [1,2,*], Yok Fee Lee [3] and Tengku Aizan Hamid [4]

[1] Malaysian Research Institute on Ageing, Universiti Putra Malaysia, Serdang 43400, Malaysia; gs57714@student.upm.edu.my
[2] Department of Human Development and Family Studies, Faculty of Human Ecology, Universiti Putra Malaysia, Serdang 43400, Malaysia
[3] Department of Government and Civilization Studies, Faculty of Human Ecology, Universiti Putra Malaysia, Serdang 43400, Malaysia; leeyokfee@upm.edu.my
[4] Academy of Science Malaysia, Kuala Lumpur 50480, Malaysia; tengkuaizan06@gmail.com
* Correspondence: imahibrahim@upm.edu.my

Abstract

Background/Objectives: Access to community eldercare reflects the joint distribution of economic resources, social protection, local infrastructure, and household circumstances. Drawing on the capability approach, this study examined whether multilevel resource capacity was associated with a survey-derived access-opportunity composite among older adults in China and whether household size and generational composition conditioned that association. Methods: A cross-sectional analysis of the 2018 China Longitudinal Ageing Social Survey included 8578 adults aged 60 years or older. Partial least squares structural equation modelling estimated formative resource-capacity and access-opportunity composites. The primary model used documented Tukey-fence treatment and mean replacement; casewise deletion, 99th-percentile winsorisation, exclusion of service use, and separate-interaction specifications were examined as sensitivity analyses. Results: Resource capacity was positively associated with access ($\beta = 0.206$, $p < 0.001$), with community resources contributing the largest outer weight (0.659). In the joint-interaction model, the association increased with household size ($\beta_{int} = 0.056$, $p = 0.003$) and was stronger in single-generation households ($\beta_{int} = 0.088$, $p = 0.016$). The resource-capacity association persisted across all sensitivity models, whereas neither interaction remained significant when estimated separately under lower-collinearity specifications. The primary model explained 15.7% of access variance ($R^2 = 0.157$; $Q^2 = 0.012$). Conclusions: Resource capacity and urban–rural location mark important inequalities in reported community eldercare opportunity. Household moderation is best treated as exploratory because it was specification-sensitive. Social work responses include benefits advocacy, service navigation, family coordination, and community-level action on territorial service gaps.

Keywords: social work; older adults; social inequality; social policy; capability approach; community eldercare; household living arrangements; access to care

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1. Introduction

Population ageing is reorganising relations among older adults, families, communities, welfare institutions, and care providers [1]. Social work encounters these relations in everyday practice: an older person may need income support, transport, family mediation,

help navigating benefits, or advocacy when local services are absent. Access to community eldercare is therefore both a practical service question and a question of social justice. It shows how unequal economic means, household circumstances, and place-based provision shape the possibility of remaining connected, supported, and included in later life.

These interdependencies are especially visible in China. Population ageing is occurring alongside smaller families, delayed family formation, low fertility, and changing expectations of intergenerational care [2–9]. At the same time, community provision has expanded without removing unmet need or regional inequality [10,11]. The policy problem is therefore no longer simply whether community eldercare exists. It is whether older adults living in different household and territorial contexts can turn available economic and public resources into care that they can actually reach and use.

Access is a relational achievement rather than a simple count of services. Penchansky and Thomas described the fit between people and services through availability, accessibility, accommodation, affordability, and acceptability [12], while Levesque and colleagues emphasised corresponding abilities to perceive, seek, reach, pay for, and engage with care [13]. The present survey does not measure those canonical dimensions directly. It provides a study-specific access-opportunity composite based on reported service availability, reported service use, stated willingness to pay, participation-condition salience, and community-environment satisfaction. These components locate different points at which opportunity may be expanded or constrained [14–24].

The capability approach distinguishes resources from the substantive opportunities people can exercise and directs attention to conversion factors [25–27]. Personal income supplies individual purchasing power; household income represents shared economic capacity. Social security institutionalises public entitlements, and community resources provide local material infrastructure. Together, these non-interchangeable inputs form multilevel resource capacity. Conversion also depends on personal factors such as health, functional ability and digital literacy; social and cultural conditions such as gender, kinship, and migration; and environmental or institutional conditions such as transport and regional policy. Household living arrangements are therefore one selected relational subset of a broader conversion context.

China has enlarged its home- and community-based care sector, yet institutional, informational, and rural–urban barriers continue to stratify access [28–38]. These inequalities are social as well as spatial. They reflect the distribution of public benefits, local facilities, family caregiving capacity, and the practical support required to move through service systems. International research similarly shows that exclusion in later life is produced across material resources, social relations, services, and neighbourhood conditions [39,40]. A social work perspective brings these levels together through its person-in-environment orientation and commitment to structural change [41].

Household living arrangements locate access within relationships of care [42–45]. Co-residents may share costs, transport, information, digital tasks, and negotiations with providers, but co-residence does not establish that support is available or preferred. It may also involve strain, conflict, unequal caregiving expectations, or substitution of unpaid care for formal provision. Household size and generational composition are therefore examined as observable relational contexts, not as exhaustive measures of capability conversion or care quality.

Using the 2018 China Longitudinal Ageing Social Survey (CLASS), this article examines associations between multilevel resource capacity and reported community eldercare opportunity. It contributes by combining personal, household, institutional, and community resources in one formative measure; by testing whether household arrangements condition the resource–access association; and by identifying implications for social work

assessment, advocacy, and community practice. Three questions guide the analysis: (1) Is multilevel resource capacity associated with the access-opportunity composite? (2) Does that association vary with household size and generational composition? (3) Which social and geographical positions remain associated with access after resources and household conditions are considered?

2. Theoretical Framework and Hypothesis Development

2.1. Community Eldercare Access as a Dimension of Social Inequality

The access-opportunity composite captures five distinct survey domains. Reported availability records whether specified services were said to exist; reported use records realised contact. Willingness to pay records stated service valuation rather than observed ability to afford a specified price. Participation-condition salience records features respondents considered important rather than accommodation delivered by a provider, and community-environment satisfaction provides a contextual proxy rather than a direct measure of service acceptability. The terminology therefore follows the questionnaire content and does not treat these indicators as validated equivalents of the canonical five dimensions.

This formulation treats access as an intermediate social outcome. It does not equate service presence with well-being. Instead, it asks whether public and community provision creates a usable opportunity for support. That distinction matters for social work, which links individual circumstances to institutional rules and can intervene when a formal entitlement fails to become practical assistance.

2.2. Capability Approach and Multilevel Resource Capacity

The capability approach distinguishes the resources people possess from the opportunities they can actually exercise [25–27]. Applied to eldercare, personal income can meet fees and travel costs; household income can spread expenses across co-residents. Social security can establish claims to public support, and community resources can provide local infrastructure. These four elements form multilevel resource capacity. Their distribution reflects structural inequality, while their relationship with access is conditioned by personal, social, relational, environmental, and institutional factors, many of which are not observed in CLASS.

Private means, public entitlements, and community provision may reinforce one another, but they are not interchangeable: income cannot purchase a service that does not exist, and facilities do not ensure access when costs or administrative barriers remain. H1: Higher multilevel resource capacity is positively associated with the access-opportunity composite.

2.3. Household Living Arrangements as Relational Contexts

Resource use takes place within relationships. Household members may contribute time, transport, money, information, advocacy, and emotional support; these activities resemble coordination work often undertaken by social workers and family caregivers. Cross-generational co-residence can extend the support network, but it can also transfer responsibility from the state to families, intensify unpaid care, or weaken the older person's voice. Household size and generational composition are therefore selected relational conditions within a wider capability framework [25,26,42–45].

Two directional hypotheses follow. A larger household may provide more potential contributors to transport, information search, payment, scheduling, and administrative work. H2a: The positive association between multilevel resource capacity and the access-opportunity composite is stronger at higher levels of household size. Single-generation households lack co-resident adult children, parents, or grandchildren who might provide cross-generational support or substitute for formal care. H2b: The positive association

between multilevel resource capacity and the access-opportunity composite is stronger in single-generation households than in multigenerational households. Figure 1 summarises the hypothesised associations and household contexts.

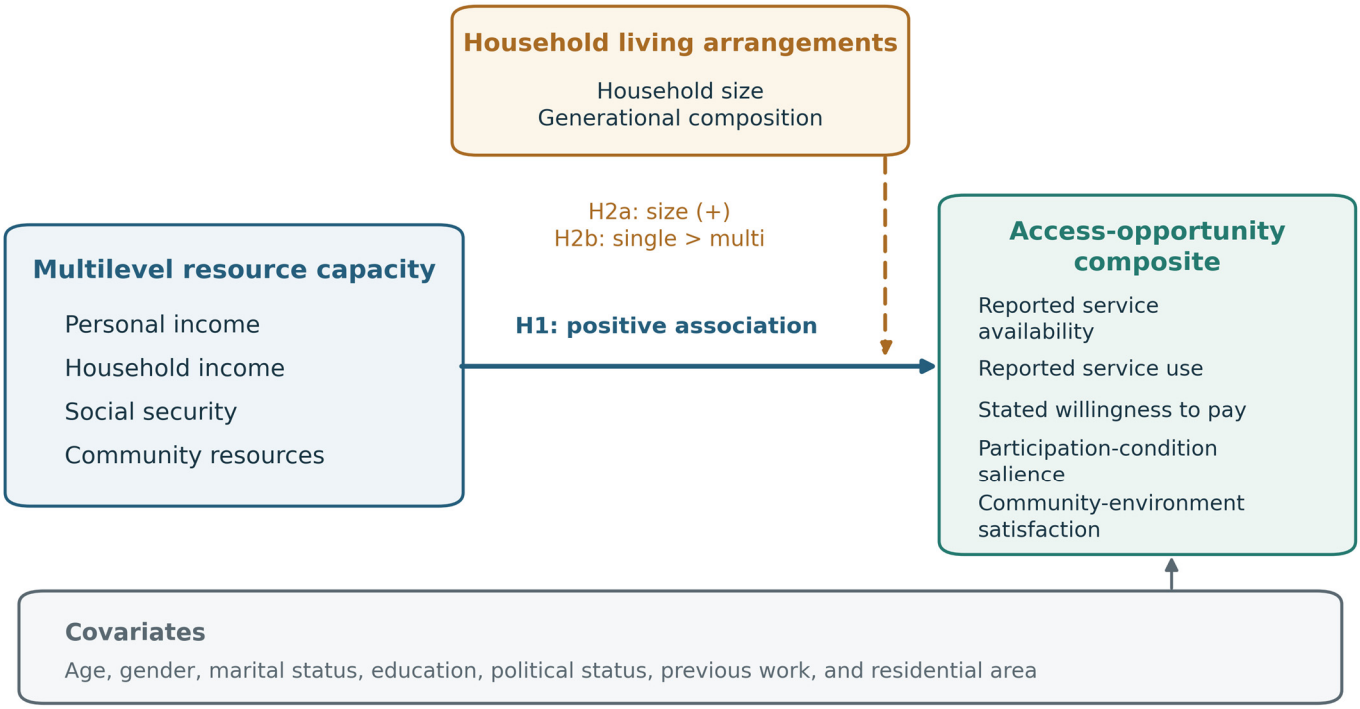


Figure 1. Conceptual framework. Household size and generational composition are the relational contexts tested empirically; broader personal, social, environmental, and institutional conversion factors remain conceptually relevant. The solid blue arrow represents H1; the dashed arrow indicates moderation by household size (H2a) and generational composition (H2b). The grey arrow represents covariate associations with the access composite. Both moderators' lower-order effects are included in the estimated model but omitted here for clarity. Arrows indicate modelled associations, not causal effects.

3. Materials and Methods

3.1. Study Design and Data Source

Data came from the 2018 China Longitudinal Ageing Social Survey (CLASS), administered by the National Survey Research Center at Renmin University of China and released through OpenICPSR in 2023 [46]. CLASS interviews people aged 60 years or older about their economic circumstances, families, communities, and health. Its multistage design selected counties or districts first and villages or neighbourhood committees second, using probability proportional to size. Face-to-face fieldwork reached 476 communities across 28 provincial-level areas [47]. The present investigation is a cross-sectional secondary analysis of that wave.

3.2. Study Population and Analytic Sample

CLASS 2018 contained 11,419 released records. Previous-employment information was missing for 2827 records; excluding these left 8592. Perceived need was missing for 16 records, 3 of which overlapped the previous-employment exclusions, producing a provisional cohort of 8579. Although perceived need was not a predictor in the reduced article model, this prespecified thesis-derived cohort was retained to reproduce the archived analysis. One respondent aged 52 was then removed, yielding the final sample of 8578 adults aged 60–108. Personal and household income missingness did not determine inclusion. The inclusion–exclusion comparison used the available 11,418-record working file (8578

included and 2840 excluded, one is excluded because age is 52). Compared with excluded records (n = 2840), included participants were older (mean 72.22 versus 69.13 years using 2018 as the reference; standardised mean difference [SMD] = 0.43), more often women (51.9% versus 43.3%; SMD = 0.17), less often married (67.3% versus 75.4%; SMD = 0.18), and more often educated to junior-high level or above (35.6% versus 24.3%; SMD = 0.25).

3.3. Measures

3.3.1. Access-Opportunity Composite

Five observed components formed a study-specific, formative access-opportunity composite [12–15]. Reported service availability counted nine services said to exist: door-to-door visits, an older-adult hotline, accompaniment to medical visits, shopping help, legal aid, household help, meal preparation or delivery, a day-care/eldercare centre, and psychological consultation (0–9). Reported service use counted use of the same nine services (yes = 1, no = 0; 0–9). Stated willingness to pay counted the services that respondents said they would purchase (0–9); it was not interpreted as a direct measure of affordability. Participation-condition salience counted eight selected priorities for community or organisational activities, including activity type, timing, proximity, recognition, reward, transport, medical aid, and other conditions (0–8); it was not interpreted as provider accommodation. Community-environment satisfaction averaged eight ratings of roads, activity venues, public security, sanitation, respect for older people, neighbourhood staff capability, lighting, and barrier-free facilities (1–5) and served only as a contextual proxy for acceptability.

3.3.2. Multilevel Resource Capacity

Multilevel resource capacity was specified formatively using four non-interchangeable indicators. Personal income was total personal income during the previous 12 months (annual CNY). Household income was the average monthly total income of family members who lived and ate together (CNY per month). Social security was a weighted index of government-provided benefits, with higher scores indicating broader or stronger coverage. Community resources counted six local facilities: a senior activity room, fitness facilities, a chess/mahjong room, a library, an outdoor activity venue, and another facility. These facilities are conceptually and operationally distinct from reported service availability, which concerned nine specific support services rather than physical community facilities. Low indicator VIFs (1.027–1.386) provided additional evidence that the formative components were not redundant.

3.3.3. Household Living Arrangements

Household size was the number of people living in the respondent's household, including the respondent, and was entered as a continuous relational context. Generational composition was coded 0 (multigenerational) when any cross-generational relative was recorded, including children, parents, parents-in-law, other in-laws, grandchildren, or great-grandchildren. It was coded 1 (single-generation) when the respondent lived alone or only with a spouse, unmarried partner, or siblings. Records listing only a helper or an unspecified other person were reviewed individually; when generation could not be established, generational composition was coded as missing rather than inferred. Each household indicator was paired with multilevel resource capacity in an interaction term.

3.3.4. Covariates

Seven background characteristics entered the structural equation as covariates. Age remained continuous. Binary contrasts distinguished women from men, respondents married with a spouse from all other marital categories, primary schooling or less from at

least junior-high education, Communist Party members from non-members, formal from informal previous employment, and urban from rural residence.

3.4. Data Preparation and Statistical Analysis

Data screening and descriptive statistics were completed in IBM SPSS Statistics 27 (IBM Corp., Armonk, NY, USA), and the model was estimated in SmartPLS 4 (SmartPLS GmbH, Bönningstedt, Germany). Non-substantive income codes (field exceeded, do not know, and refusal) were set to missing. The primary archived specification applied Tukey outer-fence recoding (values above the third quartile plus three interquartile ranges): personal income above CNY 34,563 and household income above CNY 153,300 were set to missing; 10 social-security scores above 5 were also set to missing [48]. The final primary input therefore contained 2195 missing personal-income values (25.6%), 2216 missing household-income values (25.8%), and 10 missing social-security values (0.1%). SmartPLS mean replacement retained n = 8578. This procedure was retained to reproduce the prespecified composite and interaction workflow; pooled multiple-imputation estimation is not implemented automatically in that workflow. Dependence on mean replacement was evaluated using casewise deletion (n = 5793). A second sensitivity specification capped valid personal and household income at their sample 99th percentiles (CNY 60,000 and CNY 100,000, respectively) before mean replacement [49]. Additional analyses excluded service use from the access composite and estimated each interaction separately.

PLS-SEM was selected because the focal variables were specified as emergent composites whose non-interchangeable indicators jointly define the constructs; a common-factor covariance model would impose a different measurement ontology [50–52]. The method also permits construct-score interactions without treating the large sample or non-normality as sufficient justification. Formative indicator VIFs and outer weights assessed contribution and overlap. In the structural model, each moderator and multilevel resource capacity were standardised, and the interaction was formed from their product while all lower-order effects remained in the equation. Both interactions entered jointly in the primary model. Inference used 5000 bias-corrected and accelerated bootstrap subsamples, two-sided tests, a 0.05 significance level, and a fixed random-number seed. Structural assessment reported predictor VIFs, standardised coefficients, R^2, f^2, and Q^2 [50,52–54].

3.5. Ethical Considerations

Only de-identified records from the publicly released CLASS file were analysed, and the researchers had no participant contact. Consent procedures and ethical governance were implemented by the CLASS team during primary data collection. As a secondary analysis of anonymised public data, the present work required no additional institutional review.

4. Results

4.1. Participant Characteristics

Among the 8578 respondents, mean age was 72.22 years (SD = 7.54). Women accounted for 51.9%, married respondents for 67.3%, and urban residents for 67.2%; 64.4% had no more than primary education. Households averaged 2.6 members, and 38.5% contained more than one generation. Mean reported availability and use were 0.76 and 0.73 of nine services, respectively, and mean willingness to pay was 0.51. These low values describe sparse exposure to the nine services listed in CLASS; they are not estimates of the prevalence of all community provision in China. Mean community-environment satisfaction was 3.66 on the five-point scale (Table 1).

Table 1. Characteristics of the analytic sample (n = 8578).

Domain	Characteristic	Statistic
Sociodemographic	Age, years	72.22 (SD 7.54)
	Women/men	51.9%/48.1%
	Married/widowed/divorced/single	67.3%/31.0%/1.0%/0.6%
	Primary education or less	64.4%
	Urban/rural residence	67.2%/32.8%
Household	Household size	Mean 2.6 persons
	Single-/multigenerational household	61.5%/38.5%
Resource capacity	Personal income	Mean CNY 6793/year
	Household income	Reported mean CNY 28,261/month
	Social security index (0–11)	Mean 1.48
	Community resources (0–6)	Mean 1.70
Access indicators	Reported service availability (0–9)	Mean 0.76
	Reported service use (0–9)	Mean 0.73
	Stated willingness to pay (0–9)	Mean 0.51
	Participation-condition salience (0–8)	Mean 2.17
	Community-environment satisfaction (1–5)	Mean 3.66

4.2. Formative Indicator Assessment

Indicator VIFs ranged from 1.027 to 1.386, indicating low collinearity among the formative components (Table 2). Reported service availability, stated willingness to pay, participation-condition salience, and community-environment satisfaction had significant positive outer weights. Reported service use had a significant negative conditional outer weight ($\beta = -0.196$, $p < 0.001$). Coding was verified as yes = 1 and no = 0, so higher raw scores represented more use. In a formative model, the negative weight represents the indicator′s unique contribution after the other access components are held constant; it may reflect the need-driven character of realised use or suppression among correlated components and does not, by itself, establish construct validity. Section 4.6 reports a specification that excludes service use.

Table 2. Formative measurement model.

Construct	Indicator	Outer Weight	*t*	*p*	VIF
Access-opportunity composite	Reported service availability	0.617	23.367	<0.001	1.298
	Reported service use	−0.196	5.435	<0.001	1.236
	Stated willingness to pay	0.332	9.909	<0.001	1.128
	Community-environment satisfaction	0.332	11.745	<0.001	1.027
	Participation-condition salience	0.454	17.743	<0.001	1.052
Resource capacity	Community resources	0.659	22.934	<0.001	1.083
	Social security	0.356	10.276	<0.001	1.165
	Personal income	0.040	1.070	0.284	1.223
	Household income	0.348	9.747	<0.001	1.386

Within multilevel resource capacity, community resources had the largest outer weight (0.659), followed by social security (0.356) and household income (0.348); each was significant at $p < 0.001$. Personal income had an outer weight of 0.040 ($p = 0.284$) and an outer loading of 0.342. The pattern shows that resource capacity was structured primarily by place-based infrastructure, public protection, and shared household means rather than by individual income alone.

4.3. Structural Model

The inner-model collinearity assessment yielded VIF values below 5 for most predictors. Multilevel resource capacity (VIF = 6.890) and the household-composition interaction

(VIF = 8.633) were higher because the primary model included the resource main effect and two product terms derived from the same construct (Table 3). This overlap can reduce coefficient precision and make the two conditional effects difficult to separate. The coefficients were therefore interpreted jointly and compared with lower-collinearity separate-interaction specifications. The primary model accounted for 15.7% of access variance ($R^2 = 0.157$). Q^2 was above zero but small (0.012), indicating limited predictive relevance.

Table 3. Inner-model collinearity statistics.

Predictor	VIF	Predictor	VIF
Age	1.185	Education	1.334
Gender	1.070	Marital status	1.571
Political status	1.039	Previous work	1.747
Residential area	1.433	Household size	4.169
Household composition	4.368	Resource capacity	6.890
Household size × resource capacity	3.202	Household composition × resource capacity	8.633

4.4. Direct Associations

Multilevel resource capacity was positively associated with the access-opportunity composite (β = 0.206, $t = 7.678$, $p < 0.001$; $f^2 = 0.007$), supporting H1. Urban residence had the largest positive covariate coefficient (β = 0.263, $p < 0.001$), followed by education (β = 0.154, $p < 0.001$). Age was negatively associated with access (β = −0.060, $p < 0.001$), and political status had a small negative coefficient (β = −0.125, $p = 0.032$). Gender, marital status, and previous work were not significant at $p < 0.05$ (Table 4). Because Communist Party members comprised only 3.5% of the sample, the political-status estimate was treated as an exploratory small-group association. Figure 2 summarises the primary joint-interaction model.

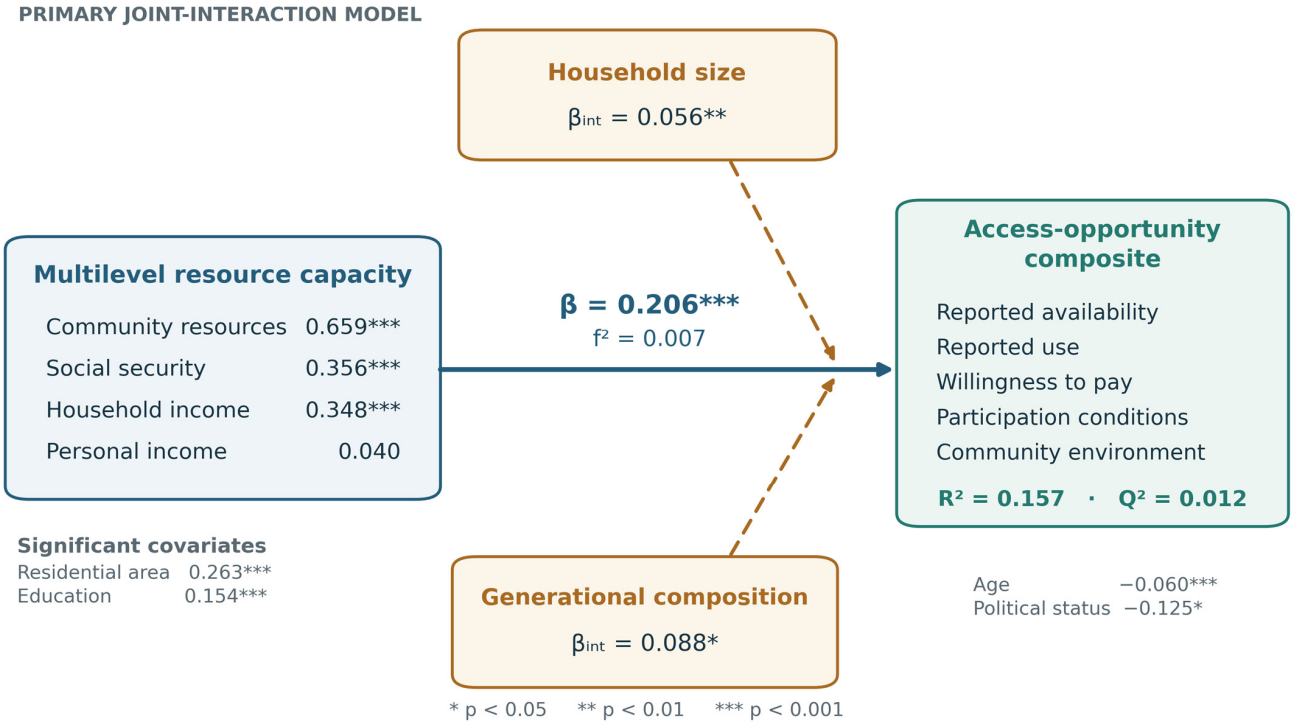


Figure 2. The primary joint-interaction model. The solid arrow represents the resource-capacity association with access; dashed arrows represent the two interaction effects. Values inside the resource-capacity box are formative outer weights, and β_{int} denotes an interaction coefficient. Both moderators' lower-order effects and all seven covariate paths were estimated; only significant covariate coefficients are listed, and their paths are omitted for clarity. Interaction robustness is examined in Section 4.6. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 4. Structural path and covariate estimates.

Role	Path to Access	β	*t*	*p*	f^2
H1	Multilevel resource capacity	0.206	7.678	<0.001	0.007
Covariate	Age	−0.060	5.768	<0.001	0.004
	Gender	0.031	1.474	0.141	—
	Marital status	−0.050	1.911	0.056	—
	Education	0.154	5.545	<0.001	0.005
	Political status	−0.125	2.150	0.032	0.001
	Previous work	0.055	1.920	0.055	0.001
	Residential area	0.263	11.905	<0.001	0.013

4.5. Moderation by Household Living Arrangements

Table 5 reports the two interaction estimates. In the primary joint-interaction model, the resource-capacity coefficient increased with household size (β_{int} = 0.056, p = 0.003): the conditional association was β = 0.150 at −1 SD, β = 0.206 at the mean, and β = 0.262 at +1 SD (Figure 3). With multigenerational households coded 0 and single-generation households coded 1, the corresponding slopes were β = 0.206 and β = 0.294, respectively (β_{int} = 0.088, p = 0.016; Figure 4). These estimates provided initial support for H2a and H2b within the joint specification. Their robustness was evaluated in Section 4.6 because the composition interaction had an elevated VIF.

Table 5. Moderating effects of household living arrangements.

Hypothesis	Interaction	β_{int}	*p*	Primary-Model Inference	Robustness
H2a (+)	Household size × resource capacity	0.056	0.003	Initial support	Not significant separately
H2b (single > multi)	Generational composition × resource capacity	0.088	0.016	Initial support	Not significant separately

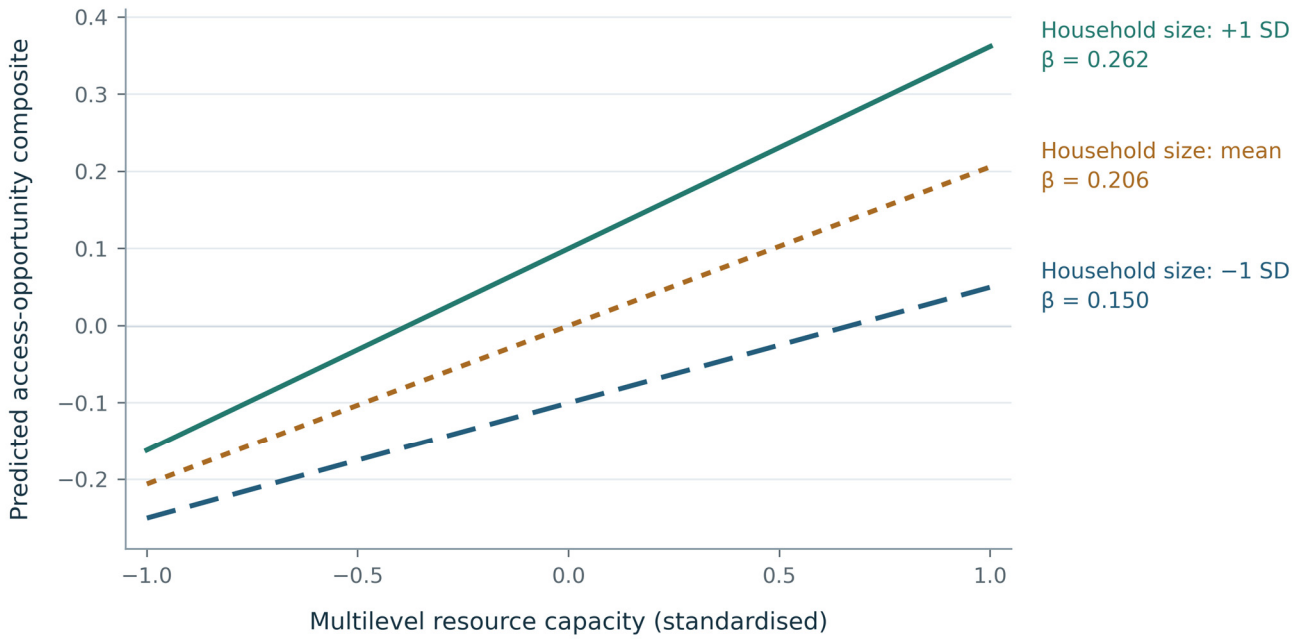


Figure 3. The conditional association between multilevel resource capacity and the access-opportunity composite by household size in the primary joint-interaction model. Dashed, dotted, and solid lines represent household size at one standard deviation below the mean, at the mean, and at one standard deviation above the mean, respectively. The corresponding slopes are 0.150, 0.206, and 0.262.

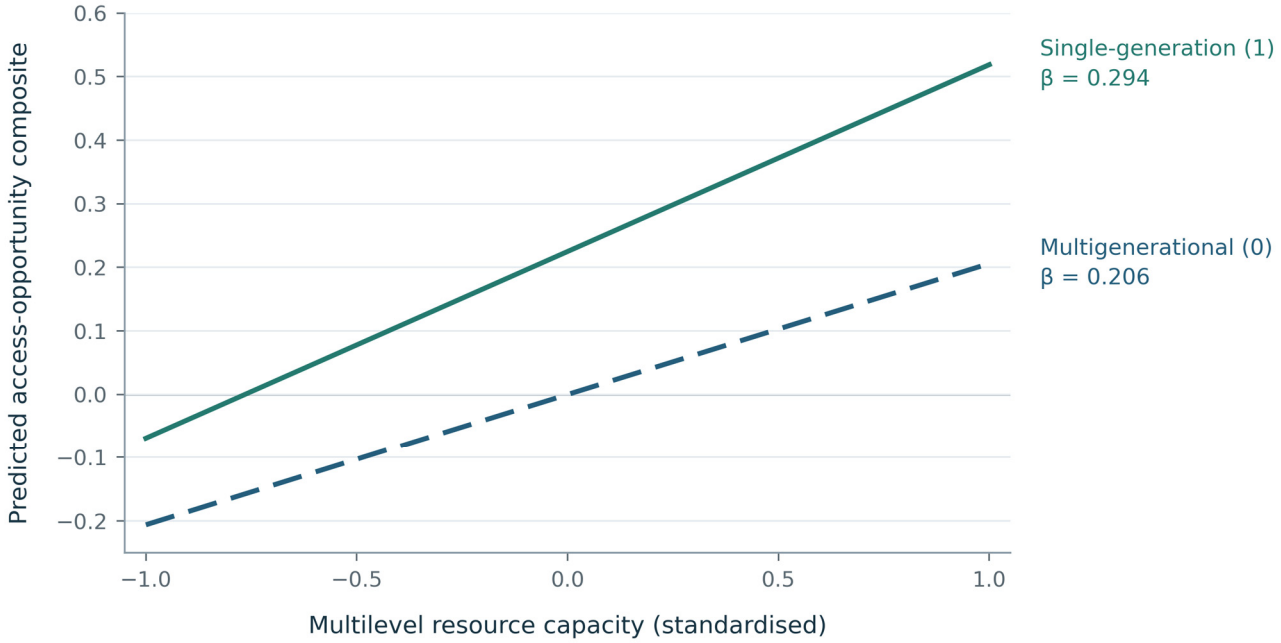


Figure 4. The conditional association between multilevel resource capacity and the access-opportunity composite by generational composition in the primary joint-interaction model. The household indicator is coded 0 for multigenerational households and 1 for single-generation households. Dashed and solid lines represent multigenerational and single-generation households, respectively; their corresponding slopes are 0.206 and 0.294.

4.6. Sensitivity Analyses

The positive resource-capacity association persisted under casewise deletion, 99th-percentile income winsorisation, exclusion of reported service use, and both separate-interaction specifications (Table 6). The two joint-model interactions also remained significant under casewise deletion and W99 treatment. When reported service use was excluded, the household-size interaction remained significant, whereas the generational-composition interaction did not reach the 0.05 significance threshold ($p = 0.053$). In the lower-collinearity separate-interaction models, neither household-size moderation ($\beta_{int} = 0.021$, $p = 0.073$) nor composition moderation ($\beta_{int} = -0.008$, $p = 0.716$) was significant. Relevant VIFs fell to 1.004 for the size interaction and 2.708 for the composition interaction. H1 was therefore robust, whereas H2a and H2b were sensitive to simultaneous interaction specification and are interpreted as exploratory.

Table 6. Sensitivity analyses for the direct and moderating associations.

Specification	*n*	Resource Capacity	Size Interaction	Composition Interaction	R^2
Primary: Tukey + mean replacement	8578	0.206 (<0.001)	0.056 (0.003)	0.088 (0.016)	0.157
Casewise: Tukey	5793	0.169 (<0.001)	0.062 (0.005)	0.186 (<0.001)	0.189
W99 + mean replacement	8578	0.191 (<0.001)	0.061 (0.001)	0.114 (0.002)	0.159
Access without service use	8578	0.221 (<0.001)	0.044 (0.019)	0.072 (0.053)	0.152
Size-only interaction model	8578	0.261 (<0.001)	0.021 (0.073)	—	0.156
Composition-only interaction model	8578	0.266 (<0.001)	—	−0.008 (0.716)	0.156

Note: Values in the three coefficient columns are β (*p* value). A dash indicates that the interaction was not included. Both moderators' lower-order effects were retained in the separate-interaction models.

5. Discussion

5.1. Principal Findings

The results locate inequality in community eldercare across resources, place, education, and household relations. Multilevel resource capacity was positively associated with the access-opportunity composite in every specification, and community resources contributed more strongly than personal income. Urban residence remained the largest covariate association. The two household interactions were positive and significant in the joint model but not in the lower-collinearity separate-interaction models. The direct resource association is therefore the most stable finding; household moderation remains exploratory.

5.2. Interpretation in Relation to Previous Research

The dominance of community resources, followed by social security and household income, places collective provision at the centre of reported access opportunity [55–57]. Personal income added little after shared and institutional resources were considered. Importantly, community resources counted physical facilities, whereas reported availability counted nine specific support services; the two measures contained no duplicated items. Their low indicator VIFs also indicated limited redundancy. The pattern is consistent with a social-work account in which public infrastructure and social rights condition what private means can accomplish.

Place remained consequential after resource capacity entered the model. The urban coefficient accords with documented territorial inequalities in healthcare, long-term care, and public investment [58–60]. Education may be associated with service knowledge and administrative navigation [61], while the negative age coefficient is consistent with mobility and information barriers [62]. The primary model explained 15.7% of access variance, and Q^2 was 0.012; these values indicate that most variation remained outside the model. Health and disability, transport, caregiver burden, migration, digital literacy, service quality, and regional policy are plausible omitted conversion factors rather than evidence against the observed resource association.

The joint model suggested that the resource association increased with household size and was stronger in single-generation households. These patterns are compatible with household coordination and with greater reliance on formal resources when no cross-generational relative is present, but the separate-interaction results did not confirm either pattern. Household structure should therefore be treated as a hypothesis-generating relational context rather than a demonstrated conversion mechanism. Co-residence can conceal unpaid caregiving burdens, unequal responsibility, or unmet preferences; social work assessment should examine relationship quality and care strain rather than infer support from household structure alone [63,64].

Political status had a small negative coefficient, but Communist Party members constituted only 3.5% of respondents. The result may reflect unmeasured differences in occupation, residence, benefit pathways, or service preferences within a small subgroup. It is reported as an exploratory association and does not support a substantive claim about political membership.

5.3. Implications for Social Work Practice and Social Policy

At the practice level, social workers can translate the multidimensional assessment into specific actions. Benefits advocacy can include checking pension and long-term-care entitlements, completing applications, and supporting appeals. Service navigation can include provider mapping, eligibility clarification, appointment scheduling, and assistance with transport or digital access. Because the access indicators capture different survey domains, practitioners should ask separately about reported availability, actual use, will-

ingness to pay, participation conditions, and the community environment rather than rely on a single global question.

Household assessment should focus on relationships, preferences, and caregiving capacity rather than size alone. For older adults living alone or only with same-generation relatives, proactive outreach and a documented contingency plan may be useful. In multigenerational households, social workers can convene family case conferences; document the older person's preferences; assess caregiver strain and conflict; and arrange respite, mediation, or caregiver referrals. These steps respond to household circumstances without treating family care as a substitute for public responsibility.

At the policy and community levels, rural and underserved areas require more than additional facilities. Mobile outreach, transport partnerships, accessible information, stable staffing, and referral agreements can connect services to older adults who cannot reach them independently. Social workers can use participatory needs assessment with older adults and caregivers, map gaps between facilities and actual services, and report recurrent eligibility or administrative barriers to local authorities. Monitoring should retain the separate access domains so that low use, unwillingness to pay, or poor participation conditions are not obscured by an average composite score.

5.4. Strengths and Limitations

The national sample, transparent formative specification, explicit household coding, and multiple sensitivity analyses permit resource inequality to be examined across individual, relational, institutional, and community levels. The capability approach connects those levels while recognising that household arrangements represent only a selected part of the broader conversion context.

The cross-sectional 2018 survey estimates associations and cannot establish temporal ordering or causal conversion processes. The prespecified cohort excluded records with missing previous employment and perceived need; included respondents were older and differed modestly in gender, marital status, and education, so selection may affect generalisability. Mean replacement preserved the archived SmartPLS workflow but can attenuate variance and interactions; the casewise model produced the same direction for the direct association and both joint interactions. Tukey-fence treatment was also compared with W99 winsorisation. The negative service-use weight was coding-verified and tested by excluding the indicator. Elevated primary-model VIFs and non-significant separate-interaction results show that the moderation findings are specification-sensitive. Finally, the access indicators are study-specific proxies rather than validated direct measures of canonical affordability, accommodation, and acceptability, and CLASS does not measure relationship quality, caregiver burden, disability, migration, housing insecurity, digital literacy, or direct contact with social workers.

6. Conclusions

Multilevel resource capacity was consistently associated with reported community eldercare opportunity among older adults in China. Community facilities, social security, and household income contributed more strongly to the resource composite than personal income, while urban–rural location marked a separate inequality. Household-size and generational-composition moderation appeared in the joint model but not in lower-collinearity separate specifications and should therefore guide further testing rather than definitive claims. For social work, the stable evidence supports benefits advocacy, practical service navigation, family coordination, and community action on transport, outreach, and territorial service gaps. Equitable ageing in place requires public systems that make resources usable without assuming that households can compensate for uneven provision.

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Abbreviations

The following abbreviations are used in this manuscript:

CLASS	China Longitudinal Ageing Social Survey
CNY	Chinese yuan
PLS-SEM	Partial least squares structural equation modelling
VIF	Variance inflation factor

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