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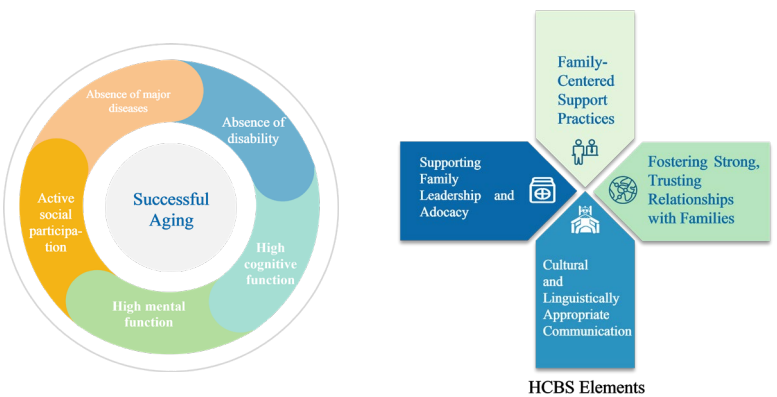in collaboration with Cornell University

Successful Aging Trajectories and Home and Community-based Services Utilization Among Older Adults: Evidence From the China Health and Retirement Longitudinal Study (CHARLS)

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Introduction

- **Global Elderly Population Increase and the Challenge of Successful Aging:** Globally, the population aged 65+ is growing rapidly. By 2035, China's elderly population is projected to reach 327 million. Promoting comprehensive health in older adults is critical.

- **Dimensions of Successful Aging and Its Trajectories:** Successful aging involves multiple dimensions including health, cognition, mental well-being, and social engagement.

- **Role of Home and Community-Based Services (HCBSs) in Successful Aging:** HCBSs aim to promote health management and independent living among the elderly.

HCBS Elements

Objectives

This study aims to explore distinct trajectories of successful aging among older adults and to investigate the impact of home and community-based services (HCBSs) utilization on these trajectories.
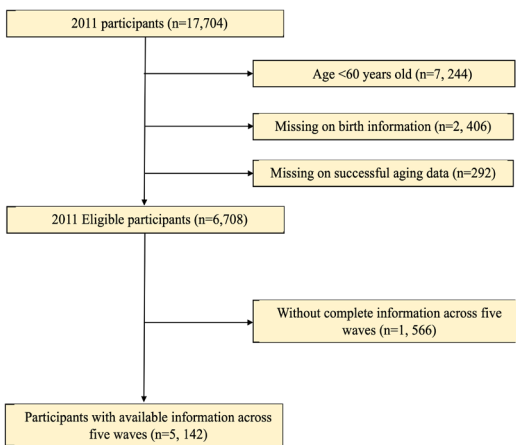
Methods

- **Data Source:** Data were sourced from the China Health and Retirement Longitudinal Study (CHARLS), an ongoing national survey targeting individuals aged 45 and above.

- **Study Population:** Older adults aged 60 and above who completed assessments across five domains of successful aging and provided comprehensive demographic information.

- **Successful Aging Measurement:** Successful aging was operationalized based on five domains: absence of major diseases, absence of disability, high cognitive function, high mental function, and active social participation.

- **Home and Community-Based Services Utilization:** HCBSs utilization was assessed based on participants' responses to a list of services received, including day care centers, regular physical exams, and others.

- **Statistical Analysis:** Group-based trajectory modeling was used to identify patterns of successful aging, followed by multinomial logistic regression to explore disparities in HCBSs utilization.

Conclusion

- Our findings describe the developmental trajectories of successful aging.

- Also, the results indicate a heterogeneity in successful aging trajectories among the elderly, with individuals who utilize HCBSs more frequently being more likely to be classified as experiencing higher levels of successful aging, which highlights the critical need to improve both the accessibility and utilization of HCBSs.

- Future research should explore the mechanisms through which HCBSs utilization influences successful aging across various aging stages.

Results

Data Screening Flowchart & Baseline characteristics

Fig. 1 Flowchart of participant selection.

Characteristic	Value
Age(years, Mean±SD)	66.99±6.02
Gender (%)	
Female	2399(51.75)
Male	2237(48.25)
Marital status (%)	
Married	3774(81.48)
Other	858(18.52)
Education status (%)	
No formal education	2679(57.94)
Primary school	1145(24.76)
Junior high school	537(11.61)
Senior high school and above	263(5.69)

Table 1 Baseline characteristic of the study population from CHARLS

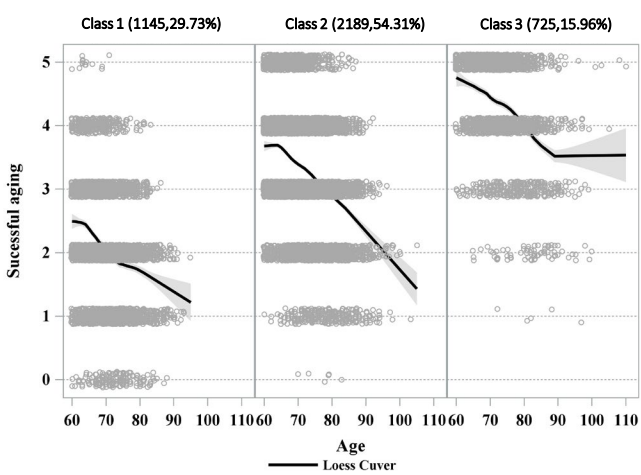### Key finding 1: Three Distinct Trajectories of Successful Aging

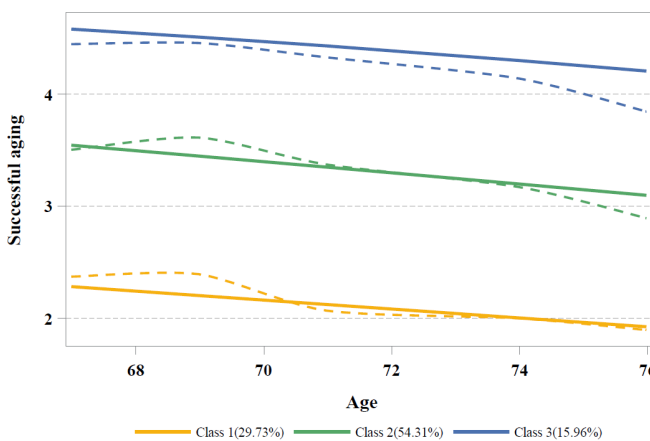Fig. 2 Loess curves illustrating three trajectories of SA.

Fig. 3 Three trajectories of SA by increasing age among older adults.

The study's findings indicated that successful aging could be categorized into three distinct trajectory classes: low-stable (29.73%), moderate-decline (54.31%), and high-decline (15.96%).

Key finding 2: HCBS Utilization Influences Successful Aging Trajectories

Table 2 Characteristics of the participants according to trajectories of successful aging.

Characteristic	Total	Trajectories of successful aging			
		Class 1, low-stable (n = 1145)	Class 2, moderate-decline (n = 2189)	Class 3, high-decline (n = 725)	p value
HCBS utilization (%)					<0.001
Yes	1159(25.00)	325(23.62)	597(23.99)	237(30.74)	
No	3477(75.00)	1051(76.38)	1892(76.01)	534(69.26)	

Table 3 Multinomial logistic regression for factors associated with successful aging trajectories.

Characteristic	Moderate-Decline		High-Decline	
	estimates	OR(95%CI)	estimates	OR(95%CI)
HCBS utilization (Ref: Yes)				
No	-0.041	0.96(0.75~1.23)	-0.453	0.64(0.46~0.88)**

The utilization of HCBSs was found to have a statistically significant impact on these trajectories (p<0.01).

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