



Article

Consumer Attitudes toward Community Elderly Services during Negative Population Growth and Sustainable Development

Meng Lin 1,†, Weidong Li 1,†, Yukun Cao 2 and Liyan Shan 2,*

- School of Economics and Business Administration, Heilongjiang University, Harbin 150080, China; imlinmeng@hlju.edu.cn (M.L.)
- College of Economics and Management, Northeast Forestry University, Harbin 150040, China
- * Correspondence: shanliyan@nefu.edu.cn; Tel.: +86-188-4572-1550
- [†] These authors contributed equally to this work.

Abstract: In 2022, it became apparent that China had officially become a nation witnessing negative population growth. Coinciding with the emergence of an aging society, the occurrence of population sustainable development has emerged as a crucial concern for society. In recent times, community-oriented elderly care has garnered prominence and materialized as a feasible pathway for confronting the matter of familial elderly care in a society with an aging populace. This study was conducted in three provincial capital cities in different regions of China. Based on the ABC theory and Maslow's hierarchy of needs theory, and with reference to the research of relevant scholars, the study investigated consumers' attitudes towards community elderly care services from the perspectives of health care services, housekeeping services, entertainment, catering services, etc., and put forward research hypotheses. The questionnaire was dimensionally reduced using factor analysis, and the hypotheses were tested using regression analysis. The findings validate that the delivery of medical provisions, domestic aid, recreational and culinary facilities, camaraderie, and counseling visits, along with bespoke services, substantially enhance consumer receptivity towards community-oriented elderly care provisions. As a result, these conclusions assume the role of valuable points of reference for entities engaged in furnishing such services.

Keywords: negative population growth; population sustainable development community-based elderly care; consumer attitudes



Citation: Lin, M.; Li, W.; Cao, Y.; Shan, L. Consumer Attitudes toward Community Elderly Services during Negative Population Growth and Sustainable Development. Sustainability 2023, 15, 15166. https://doi.org/10.3390/ su152015166

Academic Editor: Flavio Boccia

Received: 10 September 2023 Revised: 19 October 2023 Accepted: 20 October 2023 Published: 23 October 2023



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1. Introduction

The year 2022 marked a momentous milestone in the history of China with respect to its population, as the nation formally transitioned into a phase of adverse population growth, characterized by a natural growth rate of -0.6%. China's extensive populace is anticipated to endure an extended and unbroken decline. Considering the low birth and mortality rates, the quandary of elderly care has attained such prominence that it mandates adequate preparations to address the exigencies and apprehensions of the geriatric populace. In response, community-centered elderly care has emerged as a tenable remedy to offer comprehensive sustenance and amenities. This study seeks to probe into the perspectives of consumers concerning community-centered elderly care and analyzes the influence of sundry services, including healthcare, domestic aid, recreational dining, camaraderie, and counseling, along with personalized provisions, on consumer acceptance. Through empirical analysis, the study imparts invaluable insights for the advancement of community-based elderly care services and offers recommendations to ensure the delivery of superlative care and backing for elderly citizens against the backdrop of negative population growth.

Previous research has yielded numerous findings pertaining to negative population growth and community-based elderly care. Yuan Xin et al. have indicated that the higher

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number of males than females, a significant increase in the education levels of individuals of childbearing age, and improved social and economic status for women contribute to the challenges posed by population decline [1]. Factors such as increased work pressure, rising education costs, and greater emphasis on work and academics have also contributed to this issue. Addressing this problem is a complex and long-term issue, and during this period, sufficient preparations must be made for the elderly. In recent years, the development of community-based elderly care services has been a subject of extensive research. Zhai Zhenwu and Jin Guangzhao have highlighted that various factors, including China's economy, society, and culture, have resulted in a decrease or even disappearance of the desire to marry and have children among individuals of childbearing age [2]. Based on OECD research, Hu Zhan has demonstrated that approximately 70% of older adults in need of long-term care prefer home and community-based care services over institutional care [3]. Liu Jun's survey of 2854 elderly individuals revealed that 69.69% of them encountered diverse challenges in their day-to-day existence [4]. The analysis indicated that with advancing age, their physical faculties gradually decline, and there exists a major need among the elderly for emotional solace and domestic assistance. They anticipate having someone available to cater to their domiciliary elderly care necessities. However, a difference exists between the availability of community-based elderly care services and the demand for specialized medical and healthcare provisions, daily living aid, and psychological backing. Zhang Xinyue et al. have asserted that as China's society progresses, the solicitation for elderly care is shifting from material requirements to spiritual and cultural needs [5]. Elderly care no longer needs to be confined to material aspects, but can involve humane care, emotional support, domestic services, medical and healthcare, and cultural and recreational activities.

Community elderly care services directly combine community education and elderly education with the resolution of social conflicts and human development issues, which is of great significance in solving the social problems posed by an aging population and improving the quality of people's lives [6]. When the elderly enjoy elderly care services in high-quality communities, their physical fitness is much better than those who do not participate. The widespread rise of social elderly care services is conducive to achieving the strategic goal of healthy aging. Achieving healthy aging is an important strategic goal of China's elderly care work [7]. At the same time, community elderly care services may contribute to reductions in the government's elderly care burden [8]. Community elderly care highly integrates and optimizes the allocation of resources such as housekeeping, medical care, and catering. For example, community elderly care services have price advantages through cooperation with related enterprises and hospitals, reducing government investment and the cost of living for the elderly. The economic burden on the government is relieved, saving funds on social resources, allowing them to be invested in other undertakings and promoting sustainable social development. Community elderly care services can also achieve employment for some people, promote the development of social and spiritual civilization, and maintain social stability and harmony [9]. There is a large demand for labor in community elderly care services, and laborers must undergo strict and professional training. This not only can better serve the elderly, but also solves the employment problems of some personnel. These employed people and the elderly group all live in harmony on the premise of protecting their own basic interests. Community elderly care is conducive to forming a good atmosphere of loving, respecting, and helping the elderly, thereby promoting the construction and development of social spiritual civilization and making certain contributions to stabilizing families, alleviating social employment conflicts, and maintaining social stability.

Based on the extant literature, this study addresses several dimensions. Firstly, an analysis is conducted on consumer attitudes towards community-based elderly care within the context of negative population growth. Secondly, the study empirically verifies the hypotheses pertaining to the favorable influence of healthcare services, domestic services, recreational dining services, visiting companionship and counseling services, and personal-

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ized services on consumer acceptance of community-based elderly care services. Finally, drawing on the findings of the empirical analysis, this study offers recommendations for the future development of community-based elder care services, with the aim of ensuring a secure and high-quality elderly life and alleviating concerns regarding old age amid negative population growth.

2. Theoretical Foundation

2.1. ABC Model

The ABC model, as proposed by Rosenberg and Hovland in 1960, constitutes a theoretical framework for consumer attitudes. This model posits that consumer attitudes consist of three constituents: cognition, affect, and behavioral intention. Cognition represents consumers' knowledge, affect represents their subjective feelings, and behavioral intention denotes their actions or behavioral tendencies [10]. Cognition serves as the foundational element, affect assumes a moderating role, and behavioral intention emerges as the ultimate outcome. Prior to making decisions, consumers must possess certain cognitive knowledge, which they then integrate with information and pertinent knowledge to form subjective evaluations, subsequently generating affect and influencing behavioral intentions [11]. The ABC model of consumer attitudes effectively captures the relationship between cognition, affect, and behavioral intention, thereby offering a theoretical underpinning for this study.

2.1.1. Cognitive Attitudes towards Negative Population Growth and Community-Based Elderly Care

It is essential for consumers to first recognize that China officially entered a phase of negative population growth in 2022. The pressure stemming from the environment of negative population growth is rooted in several factors.

Firstly, under the influence of the family planning policy, the age structure of childbearing women in China is progressively shifting towards an "aging" trajectory, leading to a gradual decline in birth rates [12]. Secondly, the long-standing preference for male children over female children in China, although somewhat mitigated in recent years [13], has resulted in a current male-to-female ratio of 2:1.6 within the Chinese population, thereby resulting in challenges in marriage. Thirdly, as women's educational attainment and social status have improved, they no longer solely depend on men for survival, thereby prompting an increasing number of women to marry and have children at a later age. Fourthly, economic pressures, demanding work schedules, and time constraints of fast-paced modern life have inclined individuals towards remaining single or choosing not to have children in pursuit of an enhanced quality of life. Fifthly, the increasing costs of education have also imposed significant financial and psychological burdens on parents and children alike. Lastly, the constraints imposed by the reproductive age influence individuals' perception of the reproductive risks associated with each stage of life, thereby shaping their reproductive intentions [14]. Reproductive intentions among individuals of childbearing age are influenced by the restrictions imposed by their reproductive age [15]. Moreover, due to various factors such as personal aspirations or economic considerations, an increasing number of individuals opt to marry and have children at a later stage in life, leading to a decline in fertility intentions as individuals surpass their optimal childbearing age. Additionally, the environment of negative population growth is characterized by swift shifts and a transition from an underdeveloped to a negative growth state. In an environment where adequate preparations have not been made to address negative population growth, policy systems may not be well-established, and the country may lack sufficient resources to cater to a sizable elderly population, thereby giving rise to challenges associated with facilities and financial support.

Considering these factors, it is imperative to perceive the declining population and the exacerbation of negative population growth as an ongoing process necessitating a comprehensive and gradual response [16]. Additionally, it is crucial to recognize that the forms of elderly care will undergo diverse transformations throughout this process.

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2.1.2. Emotional Attitudes towards Elderly Care

De Jong Gierveld, Davitt, and their counterparts have extensively deliberated upon the significance of community-based elderly care concerning the physical and mental wellbeing of older individuals [17,18]. Li Wei has thoroughly identified the requirements of older adults and the corresponding services rendered, underscoring the crucial role played by community-based elderly care services in meeting their physiological and psychological needs, including domestic aid, medical care, rehabilitation services, and companionship visits [19]. Chen Fei and Chen Lin have aptly highlighted the potential of community-based elderly care in improving the physical and mental health of older adults [20]. The research conducted by Zhang YK and colleagues has categorized the demand for community-based elderly care services into healthcare and rehabilitation, psychological support, and recreational dining services [21]. Scholars have consistently discovered that community-based elderly care services are favored by consumers over alternative forms of care. Moreover, the provisions of domestic assistance, healthcare, and rehabilitation services evoke positive emotional sentiments towards community-based elderly care.

2.1.3. Behavioral Intention

In their study, Li Qi and Wang Luyao explicitly highlighted the direct correlation between consumer behavioral intention and actual purchasing behavior [22]. Due to the inherent challenges in researching actual purchasing behavior, assessing behavioral intention emerges as a more fitting approach. Thus, practical measures of behavioral intention involve investigating individuals' willingness to engage in community-based elderly care, their optimistic perspectives on the future development of community-based elderly care services, and their readiness to promote such services (Figure 1).

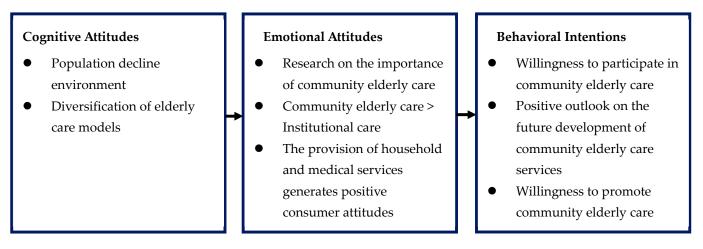


Figure 1. ABC Theory Model.

2.2. Maslow's Hierarchy of Needs Model

Maslow's hierarchy of needs theory classifies needs into five distinct levels: physiological needs, safety needs, social needs, esteem needs, and self-actualization needs. These needs progressively ascend from lower to higher levels and serve as internal motivators that shape human behavior and foster personal growth. Once lower-level needs are satisfactorily met, individuals are driven to pursue higher-level needs. It should be noted that multiple levels of needs can coexist concurrently, albeit with varying intensities [23].

3. Research Design

Reviewing the previous research literature, we found that the elderly are very concerned about health care services and personal care services. Wei's research found that the elderly attach great importance to medical and health care services and cultural and entertainment services [24]. Jia et al. (2023) also pointed out that the elderly's access to

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more medical and care services and daily companionship can help improve their health conditions [25]. Scholars who hold the same view include Zhou et al. (2022) [26]. Research by Qun et al. (2022) shows that health care and rehabilitation services can promote the physical health of the elderly [27]. Luo and Jin (2023) pointed out that by carrying out sports rehabilitation projects, the physical health level of the elderly can be improved, their mental health can also be improved, and their social abilities can be enhanced, further reducing the burden of community care for the elderly [28]. These studies provide strong evidence that older adults want greater access to medical, health, and care services. They believe that having more medical, health, and nursing services will help improve their mental state and physical health.

At the same time, scholars believe that the elderly have demand for community domestic services. Incorporating housekeeping services into community home care services will help improve the housekeeping service system [29,30]. Incorporating housekeeping services into community elderly care services can enable property companies to gain more benefits [31]. Zhang and Liu (2021) also found that if third-party enterprises and social institutions use social resources such as housekeeping, medical, and health care, a win–win pension security service model of "family life + community services" can be achieved [32].

Previous research also found that the elderly have higher needs for healthy living, entertainment, and spiritual satisfaction. They hope that the community can provide meal assistance services to maintain basic survival guarantees. They also want to get more cultural entertainment to reduce anxiety, depression, and other emotions and satisfy their spiritual and psychological needs. Representative studies such as that of Zhou et al. (2023) investigated elderly care needs through interviews and questionnaires, and the results showed that the elderly have higher needs in terms of health, daily life, entertainment, and spirituality [33]. Some scholars also pointed out that the most basic service for home care is meal assistance, and meal assistance is the basic guarantee for the elderly in home care to maintain their lives [34] (He, 2022). Wang (2021) pointed out that the supply of elderly care services should be based on the basic service needs of the elderly and that attention must be paid to the spiritual and psychological needs of the elderly [35], such as emotional support. Li and Wang (2023) conducted a special study on a special group of elderly people living alone. Their research pointed out that elderly people living alone are keen on leisure and entertainment activities, such as singing and dancing. This gives them a sense of pleasure and social presence. People who live alone are more eager for family and friendship and are prone to negative emotions such as loneliness [36]. Therefore, participating in social entertainment activities is the best way for them to eliminate negative emotions.

Scholars also found that companionship is a service that older people need. They long for someone to communicate with and relieve their worries. Liu et al. (2023) pointed out that the elderly's needs in elderly care reflect material and spiritual aspects, and they especially have a higher need for spiritual comfort [37]. With the development of community elderly care, the issue of safety and security for the elderly has attracted attention, which is also consistent with the goal of building a "safe community". Spiritual comfort and social participation are important factors that enable the elderly to transform from "having someone to take care of" to "having someone to rely on" [38]. As a special group of elderly people, elderly people living alone need not only daily care, but also companionship [39].

As the level of demand increases, personalized services will effectively enhance the competitiveness of the community elderly care industry. Customizing services according to the individual needs of the elderly can enhance their sense of happiness and provide them with a high-quality service experience. Zhao et al. (2022) found that the elderly attach great importance to personalized service needs [40]. Xing's (2021) research pointed out that personalized services help the elderly affirm and support community care [41]. What needs special attention is that different elderly groups require different elderly care services [39]. With the advent of the information economy era, artificial intelligence has

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begun to penetrate into the lives of ordinary people. The emergence of smart services provides a more convenient way to meet the needs of personalized elderly care services [42].

Through the above literature review, we found that the elderly have a high demand for medical and health care services, housekeeping services, cultural and entertainment services, meal assistance services, emotional support, spiritual comfort, personalized services, etc. Based on the above scholars' views, this study takes the ABC model and Maslow's needs model as its basic theories to propose the following research design. This study hypothesizes that service factors such as home-based community care, healthcare and rehabilitation, recreation and dining, visiting and counseling, and personalized services affect consumer attitudes towards community elderly care services. In addition, consumer personal attribute factors may also reflect differences in the formation of consumer attitudes and can be used as control variables to examine their impact on consumer attitudes. The preliminary design of this study is shown in Figure 2.

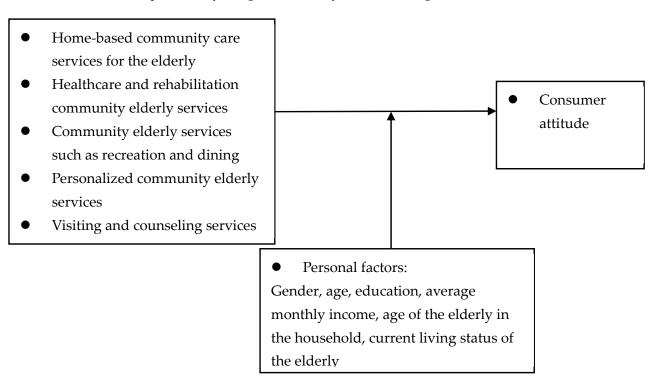


Figure 2. The theoretical framework.

4. Questionnaire Design and Data Collection

Drawing upon prior research on consumer attitudes towards community-based elderly care services, a meticulously designed questionnaire was developed based on the research framework illustrated in Figure 2. The survey instrument comprised seven sections, including a total of thirty-nine items. Considering their essential role, demographic variables were placed at the forefront in the first section (six items), encompassing characteristics of the respondents such as gender, age, education level, average monthly income, age of elderly family members residing in the household, and their current living arrangements. The second section probed respondents' perspectives on the provision of companionship visits and conversational support in the context of community-based elderly care (five items). The third section elicited respondents' viewpoints on the delivery of domestic assistance services within the context of community-based elderly care (five items). Subsequently, the fourth section explored consumers' perceptions regarding healthcare and rehabilitation services in the domain of community-based elderly care (six items). The fifth section examined consumers' attitudes concerning the recreational and gastronomic amenities accessible in settings for elderly care within the community (six items). The sixth section validated the viewpoints of consumers regarding personalized services tailored to meet

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individual requisites in community-based elderly care (six items). Finally, the concluding section probed the viewpoints of individuals concerning the forthcoming advancement of community-based elderly care services and their overall dispositions. The items including this ultimate section constituted the dependent variables of the study. With the exception of the demographic inquiries, respondents were instructed to utilize a five-point Likert scale to assess the relative significance of different factors. Consumer attitudes were defined according to degree as "very important", "important", "average", "unimportant", and "very unimportant". The questionnaire design aimed to probe the preferences of consumers regarding their willingness to engage in community-based elderly care services. The survey selected middle and low-end communities where urban residents live concentratedly, and distributed questionnaires in six communities in three different cities in China. We entrusted property management companies to distribute questionnaires on site. The cities participating in the survey are the second-tier cities Harbin, Jinan, and Fuzhou in China. These cities are provincial capitals with relatively active development and are also regional central cities. They are in the northeast, central and southeast of China, which can better measure the views of the respondents in different living habits and cultural backgrounds, making the research broadly representative. We conducted research by entrusting property companies to conduct door-to-door surveys. This study used the simple random sampling method to determine the study sample size. It was planned to survey 80 households in each community, and the overall survey sample size is 480. The formula for calculating the minimum sample size is:

$$n = \frac{P(1-P)}{(\frac{e^2}{7^2} + \frac{P(1-P)}{N})}$$

P is the standard deviation. Generally, it takes the value 0.5 when the sample variation is the largest. We hope that the survey results are within the 95% confidence interval, and the required statistic is a Z value of 1.96. We hope that the error is within 5%, and the error value represented by e is 0.05. N is the total sample size. After calculation, the minimum sample size required for this study is 214. Based on the principle of voluntary participation, a total of 352 questionnaires were collected in six communities, yielding 334 valid responses. The sample characteristics are outlined in Table 1.

Table 1. Sample of respondents.

Demogra	phic Characteristics	Frequency in the Sample	Rate
6. 1	Male	156	46.71%
Gender	Female	178	53.29%
	<25 yr	86	25.75%
A	25–34 yr	136	40.72%
Age Education level	35–44 yr	68	20.36%
	>45 yr	44	13.17%
	Uneducated	17	5.09%
	Elementary school	11	3.29%
T 1 (2 1 1	Junior and senior high school	37	11.08%
Education level	Undergraduate	196	58.68%
	Postgraduate	39	11.68%
	PhD	34	10.18%
	<3000 yuan	26	7.78%
Monthly	3001–6000 yuan	88	26.35%
average income	6001–8000 yuan	105	31.44%
_	>8000 yuan	115	34.43%
	<60 age	78	23.35%
Age of the elderly	60–70 age	144	43.11%
in the family	71–80 age	59	17.66%
•	>80 age	53	15.87%
Comment state of	Living alone	56	16.77%
Current state of	Elderly couples living together	89	26.65%
residence of elderly	Living with children	90	26.95%
family members	Living with children and grandchildren	99	29.64%

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The findings of the survey revealed a relatively balanced distribution of gender among respondents, with most of the sample exhibiting relative youthfulness (66.24% below the age of 34) and possessing a significant level of educational attainment (80.54% with a university degree or higher). In terms of monthly income, a diverse range was observed, with a relatively high proportion (65.87%) reporting an income exceeding 6000 yuan per month. This indicates that a significant portion of consumers possesses the financial capacity to bear certain expenses associated with community-based elderly care services. Concerning the age distribution of elderly family members residing in respondents' households, the highest proportion was observed within the 60–70 age group (43.11%), while the distribution across other age brackets appeared relatively uniform, emphasizing the willingness and ability of most older adults to participate in community-based elderly care services. Furthermore, the living arrangements of elderly relatives were discovered to be reasonably evenly dispersed, with a preponderance of cohabitation with spouses, offspring, or both progeny and grandchildren, whereas a minor fraction resided in solitary arrangements (constituting 16.77%).

5. Hypothesis Formulation and Adjustment

5.1. Questionnaire Reliability, Validity Testing, and Factor Analysis

The reliability and validity of the questionnaire were evaluated through the utilization of Cronbach's alpha coefficient, which measures internal consistency and reliability (Table 2). The range of Cronbach's alpha values is from 0 to 1, with higher values indicating greater reliability. The findings of the questionnaire evaluation conducted in this study were deemed satisfactory, with a minimum alpha value of 0.893. To conduct factor analysis, the SPSS 21.0 software was employed, utilizing the principal component analysis method with eigenvalues exceeding 1. Prior to the execution of factor analysis, the suitability of the questionnaire data for this purpose was assessed through the application of the Kaiser–Meyer–Olkin (KMO) test and Bartlett's test of sphericity (Table 3). The factor analysis encompassed six distinct sections (Table 4), representing the independent variables (Sections 2, 3, 4, 5, and 6 of the questionnaire in Appendix A) as well as the dependent variable (Section 7 of the questionnaire). This study used factor analysis to combine the thirty-three original variables into six common factors. Using principal component analysis with an eigenvalue of 1, VARIMAX rotation was performed.

Table 2. Reliability test of the questionnaire.

Factor Group	Cronbach's α
Healthcare and rehabilitation service factor	0.906
Domestic assistance service factor	0.896
Entertainment and dining service factor	0.893
Factors of visitation, companionship, and counseling services	0.903
Personalized needs service factor	0.918

Table 3. KMO and Barlett's test of sphericity for the questionnaire.

Factor Crosse	1010	Barlet	t
Factor Group	KMO	Approximate X2	Sig.
Healthcare and rehabilitation service factor	0.918	1133.880	0.000
Domestic assistance service factor	0.881	929.420	0.000
Entertainment and dining service factor	0.898	1031.732	0.000
Factors of visitation, companionship, and counseling services	0.884	998.231	0.000
Personalized needs service factor	0.921	1273.948	0.000

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 Table 4. Exploratory factor analysis of the questionnaire.

Views on the Implementation of Visiting, Accompanying, and Talking	Components and Factor Loadings	Eigenvalue	Cumulative Percentage of Variance Explained	Common Divisor
Community Elderly Services	1		Explained	
Q7	0.874			
Q8	0.851			Factors of visitation,
Q9	0.811	3.609	72.171%	companionship, and
Q10	0.852			counseling services (H4)
Q11	0.859			
Views on the provision of home-based community care services for the elderly	Components and factor loadings	Eigenvalue	Cumulative percentage of variance explained	Common divisor
	1			
Q12	0.850			
Q13	0.822			Domestic assistance service
Q14	0.818	3.533	70.651%	factor (H2)
Q15	0.852			
Q16	0.859			
Views on the provision of healthcare and rehabilitation community-based	Components and factor loadings	Eigenvalue	Cumulative percentage of variance explained	Common divisor
elderly services	1			
Q17	0.805			
Q18	0.833			
Q19	0.837	4.083	68.056%	Healthcare and rehabilitation service factor (H1)
Q20	0.847			service factor (111)
Q21	0.833			
Q22	0.794			
Views on the provision of community elderly services such as recreational	Components and factor loadings	Eigenvalue	Cumulative percentage of variance explained	Common divisor
and catering services	1			
Q23	0.780			
Q24	0.794			
Q25	0.808	3.914	65.237%	Entertainment and fining
Q26	0.791			service factor (H3)
Q27	0.826			
Q28	0.842			
Perspectives on the development of community-based elderly services with	Components and factor loadings	Eigenvalue	Cumulative percentage of variance explained	Common divisor
individualized needs	1			
Q29	0.826			
Q30	0.849			
Q31	0.846	4.253	70.878%	Personalized needs service
Q32	0.850		7.5.07.076	factor (H5)
Q33	0.851			
Q34	0.829			
Views on the provision of community-based elderly services –	Components and factor loadings	Eigenvalue	Cumulative percentage of variance explained	Common divisor
	1			
Q35	0.847			
Q36	0.847			Attitudes towards the development of
Q37	0.846	3.576	71.523%	community-based elderly
Q38	0.870			services (dependent variable)
Q39	0.817			

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5.2. Healthcare and Rehabilitation Service Factor

In accordance with Maslow's hierarchy of needs, the highest priority is given to physiological and safety needs. Therefore, individuals tend to place significant emphasis on healthcare and rehabilitation services. The provision of daily care positively impacts the health of elderly individuals, leading to a considerable improvement in their self-assessed health status, while also playing a significant role in their psychological well-being [43]. Many elderly individuals exhibit aversion towards inconvenience and express concerns regarding costs. Due to the intricate procedures and formalities involved in seeking medical treatment, a considerable number of elderly individuals tend to overlook their health issues. Community-based elderly care services can effectively cater to the needs of the elderly, especially those residing alone, by offering healthcare and rehabilitation services, thereby enhancing their quality of life. Furthermore, these services provide psychological comfort and contribute to the maintenance of good health. Hence, it is postulated that the provision of healthcare and rehabilitation services significantly influences consumers' attitudes towards community-based elderly care.

H1. The implementation of healthcare and rehabilitation services has a positive and significant impact on consumers' acceptance of community-based elderly care.

5.3. Domestic Assistance Service Factor

The living environment directly influences the health and emotional well-being of the elderly. However, due to limitations in mobility, elderly individuals may encounter difficulties in maintaining cleanliness and hygiene in their residences. They often rely on domestic assistance services to fulfill their daily living requirements. While some elderly individuals manage independently or receive support from family members, this arrangement can impose an additional caregiving burden on families [44]. Hiring external domestic service personnel often proves to be costly and may pose challenges in ensuring the quality of service. Therefore, community-based elderly care services that offer professional, convenient, and affordable domestic assistance services are expected to exert a significant positive impact on consumers' attitudes towards community-based elderly care. Based on this, the following hypothesis is proposed:

H2. The provision of domestic assistance services has a positive and significant impact on consumers' acceptance of community-based elderly care.

5.4. Entertainment and Dining Service Factor

Considering the rapid growth of the food delivery and catering sectors, a significant number of individuals nowadays lack interest or proficiency in cooking. The majority of elderly individuals experience various degrees of physical health issues, underscoring the importance of appropriate dietary pairing and management. However, in their daily lives at home, only a small proportion of elderly individuals consistently pay attention to this aspect. Self-sufficient elderly individuals primarily rely on dining-related assistance services for their daily care, with most depending on themselves or their family members to address this need, thus adding to the caregiving burden on families [44]. Certain community-based home care facilities offer meal assistance services, enabling elderly individuals to fulfill their dining requirements within the community and alleviating the pressure on themselves or their families to prepare meals [45]. Therefore, in the forthcoming advancement of community-oriented elderly care, the incorporation of top-tier culinary amenities will function as a notable enticement for consumers. Additionally, compared to externally procured dining services with ambiguous sanitation standards, consumers will exhibit a greater disposition to partake in the offerings of community-oriented elderly care. Accordingly, it can be deduced that the integration of dining provisions within communityoriented elderly care will indubitably exert a constructive and favorable impact on the perspectives of consumers towards such services.

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When individuals' physiological and safety needs are met, they tend to progress towards their social and esteem needs. Therefore, there is an increasing demand among the elderly for cultural and recreational activities. Research findings have indicated that the majority of elderly individuals exhibit a preference for activities such as calligraphy, painting, chess, dance, and tai chi [46]. Additionally, they express a desire for community-specific venues that cater to their cultural and recreational needs, where they can actively participate in various activities organized by the community or service organizations. Therefore, it is hypothesized that the provision of specialized venues, such as square-dancing areas and chess rooms, tailored to the preferences and needs of the elderly, will have a positive impact on consumers' attitudes towards community-based elderly care.

H3. The provision of cultural and recreational services will significantly and positively impact consumers' acceptance of community-based elderly care.

5.5. Factors of Visitation, Companionship, and Counseling Services

Most elderly individuals, being either retired or having shifted their focus away from their occupational engagements, encounter considerable difficulty in expressing their evolving personal principles. Additionally, considering the reduced extent of their social engagement, there arises a persistent yearning for companionship and opportunities to make meaningful contributions to their communities or offer aid to others. Regrettably, with their offspring often preoccupied with work responsibilities or physically distant, the lack of ample support and assistance, both psychologically and materially, renders the elderly more vulnerable to the development of mental impediments [47]. Therefore, the responsibility of providing care, conducting visits, engaging in dialogues, dispensing counsel, and implementing emotional interventions for the elderly typically rests with professionally trained social workers or dedicated volunteers. By extending consoling emotional support, one can significantly enhance the maintenance of their overall well-being.

H4. The provision of visitation, companionship, and counseling services is hypothesized to yield a positive and significant impact on consumers' acceptance and support of community-based elderly care.

5.6. Personalized Needs Service Factor

As the economy advances, the income of individuals experiences a gradual amelioration. Once their fundamental needs are met, individuals develop specific requirements. The notion of distinctive consumer demands was first introduced by Snyder and Fromkin. It contends that each individual possesses inherent self-awareness and singular yearnings. When confronted with a perceived challenge to their distinctiveness, individuals can restore their self-esteem and alleviate adverse influences through self-differentiation [48]. This process includes the acquisition, utilization, and disposal of consumer goods or behaviors to pursue differentiation from others, eventually establishing and enriching personal and social identities [49]. Considering the present demographic of aging individuals, there is a significant portion with personalized prerequisites. Accordingly, providing tailored services in community elderly care can yield significant advantages. Hence, the ensuing hypothesis is posited:

H5. The provision of personalized services will positively and significantly influence consumers' acceptance of community elderly care.

6. Test Results and Analysis

6.1. Test Results (SPSS)

Hypothesis testing was conducted in the study using SPSS version 21.0 software. The control variables considered were the personal attribute factors of the respondents. The independent variables encompassed five dimensions: healthcare and rehabilitation ser-

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vices, domestic services, entertainment and dining services, visitation and companionship services, and personalized demand services. The dependent variable was the attitude of consumers towards community elderly care services.

6.1.1. Impact of Personal Attributes on Consumer Attitudes

To investigate the impact of consumers' basic personal information on their attitudes towards community elderly care services, a one-way analysis of variance (ANOVA) was employed to assess variations in consumer attitudes based on different personal attributes (Table 5).

Tab	le	5.	One-way	ANOVA.
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Dependent List	N	Mean	Std. Deviation	Attribute Variable	F	Sig.
				Gender	2.079	0.105
				Age	0.940	0.422
Attitudes towards				Education level	2.147	0.060
the development of	334	3.884	1.107	Monthly average income	0.913	0.435
community-based elderly services				Age of the elderly in the family	1.468	0.223
				Current state of residence of elderly family members	1.222	0.302

Table 5 illustrates that gender, age, education level, average monthly income, and the age and living status of elderly family members exhibited no significant influence on consumer attitudes. Hence, it can be concluded that demographic variables do not exert a notable impact on attitudes towards community elderly care services within the context of a declining population. Thus, this study remains unaffected by demographic variables.

In 2022, China officially entered negative population growth, and the elderly population will increase in the future. Children cannot take care of their parents all the time due to busy work lives and other reasons, so the choice between nursing institutions or home care is inevitable. Moreover, due to traditional Chinese thinking and the convenience of home care, most elderly people are willing to choose home care.

According to Figure 3, from 2013 to 2022, the per capita disposable income will increase stepwise. People will be less sensitive to money when considering whether to consume, and will also be willing to spend a certain amount of money to improve the quality of life of the elderly. The substantial increase in income has led to an increase in spending power, which shows that income factors do not significantly affect consumer attitudes.

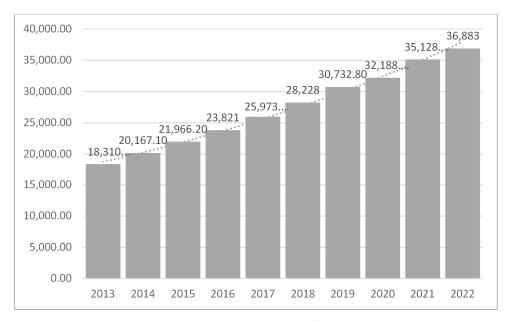
People who have received higher education are more likely to accept community pension services [50]. In 2010, the admission rate of China's college entrance examination was 69%, and in 2021, the admission rate of China's college entrance examination was 92.89%, which shows that most people in China have already enjoyed higher education. Consequently, they readily accept community elderly care services, and also popularize the benefits of community elderly care services to their parents, relatives, and friends, and thus agree with community elderly care services. This also explains why the education factor does not significantly affect consumer attitudes.

According to the results of the questionnaire, 83.23% of the elderly live with their children, and 16.77% live alone; 65.38% of the elderly with low income (less than 3000 yuan) live with their children, and 34.62% live alone. The proportion of older people (over 80 years old) living with their children is 77.36%, and the proportion of living alone is 22.64%. The proportion of living together and living alone is not much different under specific conditions and under general conditions.

Since ancient times, the Chinese have had the traditional concept of children respecting and supporting the elderly. Children are the main participants in the care of the elderly [51]. Children's care for the elderly is also more secure [52]. Therefore, many elderly people in China choose to live with their children so that they can be cared for. At the same time, the elderly can also help take care of their grandchildren. However, affected by China's

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> one-child policy in the 1980s, many one-child families are about to face aging problems. These people who are about to enter middle age are faced with relatively high work and life pressure, and the fierce competition makes many of them leave their hometowns to work in more economically developed areas [53]. Chinese people also have a potent homesickness complex, and many elderly people are unwilling to leave their hometowns to live in other places. The above factors have caused "spatial separation" between some elderly people and their children, increased the difficulty and cost of children taking care of their parents, and changed their emotional communication methods. This also highlights the necessity of community care for the aged.



Data Sources: [Guangjuntong] Urban Big Data Platform. Unit: Yuan

Figure 3. 2013–2022 per capita disposable income.

6.1.2. Testing of Hypothesized Variables

0.902 ***

H5

9.107

Tests were carried out individually for the five dimensions of independent variables, namely, healthcare and rehabilitation services, domestic services, entertainment and dining services, visitation and companionship services, and personalized demand services. The outcomes are displayed in Table 6.

Hypothesis	VIF	Regression Coefficients	Standard Error	p Values	Confidence Interval	Results
H1	5.342	0.878 ***	0.026	0.000	[0.987, 1.025]	Supported
H2	7.291	0.872 ***	0.027	0.000	[1.004, 1.046]	Supported
H3	8.238	0.886 ***	0.026	0.000	[0.983, 1.022]	Supported
H4	7.163	0.875 ***	0.027	0.000	[1.002, 1.043]	Supported

0.024

Table 6. Hypothesis testing of consumers' attitudes toward community-based elderly services.

Dependent variable: Attitudes towards the development of community-based elderly services; ***. Significantly correlated at the 0.01 level.

0.000

[0.997, 1.032]

Supported

Healthcare and Rehabilitation Services: For consumers, healthcare and rehabilitation services displayed a significant positive correlation with the dependent variable.

Domestic Services: The data revealed a significant positive influence of domestic services on the dependent variable for consumers.

Entertainment and Dining Services: With a significance value of 0.000, which is below 0.01, entertainment and dining services exhibited a significant positive correlation with the dependent variable for consumers.

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Visitation and Companionship Services: Visitation and companionship services demonstrated a significant positive correlation with the dependent variable for consumers.

Personalized Demand Services: The data unveiled that personalized demand services have a significant positive impact on the dependent variable for consumers.

6.2. Results Analysis

6.2.1. Analysis of Healthcare and Rehabilitation Services

In accordance with the "Report on the Current Status and Development of Care for Elderly People with Dementia" published by the China Aging Association in 2021, the number of individuals aged 60 and above suffering from chronic diseases in China surpasses 180 million. Among them, approximately 15.07 million have been diagnosed with dementia, and this figure is projected to rise to 22.2 million by 2030 and 28.98 million by 2050. As the aging population encounters physical limitations, intricate healthcare procedures, challenges in hospital visits, and significant medical expenses [54], the implementation of healthcare and rehabilitation services in community elderly care assumes a pivotal role in meeting consumer needs. Therefore, it positively and significantly influences consumers' acceptance of community elderly care.

6.2.2. Analysis of Domestic Services

A clean and hygienic environment significantly reduces the probability of illness among the elderly in comparison to residing in unsanitary conditions. The establishment of sound hygiene practices proves vital for the physical and mental well-being of older individuals. Nonetheless, as one ages, declining physical capabilities pose challenges in carrying out routine cleaning tasks. Engaging external domestic services may present disadvantages, such as safety concerns and high expenses. Consequently, the provision of domestic services is greatly valued by consumers as it effectively addresses diverse household-related issues. The incorporation of domestic services considerably and positively impacts consumers' acceptance of community elderly care.

6.2.3. Analysis of Domestic Services and Entertainment and Dining Services

Diet plays a crucial role in the lives of the elderly. With advancing age, bodily functions undergo changes, necessitating corresponding adjustments in dietary habits. Various health concerns commonly affect older adults, underscoring the importance of adopting a diet that is light, low in fried and preserved foods, and emphasizes nutritional balance. In the context of home-based elderly care, it is estimated that merely around 5% of households effectively manage such dietary requirements. Accordingly, dining services provided in community elderly care can effectively cater to a wide array of dietary concerns faced by older individuals. Consumers highly appreciate this service as it resolves diverse dining-related issues. The implementation of dining services significantly and positively influences consumers' acceptance of community elderly care.

The majority of older adults have retired or are not actively employed, potentially leading to feelings of anxiety and melancholy arising from a perceived lack of value and contribution. These individuals desire meaningful activities that redirect their focus and enable them to produce a significant impact. Therefore, the emergence of entertainment becomes indispensable. Engaging in diverse and enjoyable entertainment activities allows older adults to experience a sense of satisfaction and fulfillment, facilitating their continued learning, contribution, and enjoyment in their later years. Moreover, such activities offer opportunities for socialization and fulfillment of social needs. Hence, research indicates that the implementation of entertainment and dining services significantly and positively influences consumers' acceptance of community elderly care services.

6.2.4. Analysis of Visitation and Companionship Services

The elderly populace exhibits higher susceptibility to health concerns and fragility, necessitating substantial support and aid across various facets, particularly in their activities

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of daily living [55]. According to a nationwide survey, presently, more than 80% of elderly citizens in China encounter health afflictions and ailments, including conditions such as cerebral arteriosclerosis, paralysis, hypertension, heart disease, anxiety disorders, insomnia, and depression. Nearly 70% of these maladies are ascribed to inadequate mental and daily care provided for the elderly. Considering the backdrop of a declining population, these patterns are expected to improve in the foreseeable future. Therefore, the introduction of visitation and camaraderie provisions in community-based elderly care undeniably and significantly impacts the acceptance of such services among consumers.

6.2.5. Analysis of Personalized Demand Services

Delivering tailored and personalized services to elderly individuals with varying ages and physical conditions holds paramount importance. From a demand perspective, this represents a pressing need within the elderly population. Once their basic needs are satisfied, individuals may aspire for higher-level purposes. As cultural lifestyles grow increasingly diverse, such preferences and demands also exhibit variation. Accordingly, only by offering personalized and targeted services that align with the preferences of each elderly individual can a sense of genuine care and satisfaction be achieved. Research surveys indicate that the implementation of personalized demand services in community elderly care yields a positive and significant impact on consumers' acceptance of such services.

7. Conclusions

This empirical analysis delves into the consumer attitudes concerning community elderly care services against the backdrop of a declining population. The study identifies five fundamental factors, specifically medical and healthcare services, household services, entertainment and dining services, visiting and companionship services, and personalized needs services. The research findings disclose significant and favorable impacts of all these elements on consumers' attitudes toward engaging in community elderly care services.

Before China entered negative population growth, demographic variables in related studies, such as income factors, had significantly different effects on the research results [56–59]. However, after China entered negative population growth, the results of this study showed that there was no significant difference in attitudes toward community elderly care services among respondents with different incomes. The reason for this result may be that with the rapid development of China's economy, per capita disposable income has increased significantly, which has changed people's consumption concepts, meaning people are no longer as sensitive to money in the consumption decision-making process.

To effectively implement these five services within the domain of community elderly care, distinct strategies ought to be adopted. Firstly, a concerted effort is required to promote the "family-based nursing" program, aimed at fostering a well-endowed talent pool for community elderly care services. Concurrently, while advancing community elderly care services, it is necessary for the government to elevate the income and social standing of caregivers. Moreover, vocational institutions should assume a pivotal role in this pursuit by offering specialized nursing programs as an alternative for individuals who may not excel in conventional college entrance examinations, thereby enriching the talent reservoir of the community elderly care industry. Secondly, forging long-term partnerships between community elderly care services and hospitals assumes utmost significance. Such collaborations facilitate swift medical attention for elderly individuals in case of health issues and, in turn, contribute to cost reductions for consumers, thereby creating a mutually beneficial situation. Thirdly, securing government support and nurturing highly skilled personnel are indispensable. Community elderly care services must garner governmental backing and obtain adequate funding to foster the development of proficient professionals in fields such as household services and communication. By delivering services of exceptional quality at affordable prices, consumer demands can be met with precision. In conclusion, the triumphant execution of community elderly care services within the context of a declining population necessitates comprehensive government support, a steady source of funding,

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and the cultivation of competent professionals. If these pivotal elements can be effectively addressed, consumer attitudes towards community elderly care services are expected to be widely embraced amid the declining population landscape, instilling optimism for its future advancement and widespread endorsement.

This study focuses on consumers' personalized community care needs. Countries currently experiencing negative population growth include China, Russia, South Korea, Japan, etc., and research on community elderly care is also relatively in-depth and extensive. Most of these studies have focused on physiological needs and psychological needs, involving services such as housekeeping, medical care, companionship, etc. [60–62]. However, fewer scholars have paid attention to consumers' personalized needs. The satisfaction of personalized needs enables consumers to receive higher-quality community elderly care services, which aligns with the rapidly changing consumer demand characteristics in the era of global integration and the information economy. This is also a way to fundamentally improve people's quality of life.

However, this study is not without certain limitations. Firstly, the research scope is relatively extensive, and the questionnaire survey lacks specific targeting or restrictions on respondents. As a result, its applicability to certain cities, particularly those characterized by lower levels of economic and intellectual development, may be limited. Secondly, the establishment of precise standards for service quality was inadequate. Considering the diversity in the economic income and educational backgrounds of consumers, their expectations concerning service quality may exhibit variations. Unfortunately, the survey inadequately accounted for this aspect.

With respect to the contributions, this study offers two principal benefits. Firstly, it caters to the demands of consumers by enabling organizers to attain a comprehensive understanding of their needs and wants. Accordingly, supply processes can be refined and harmonized with consumer requisites, thereby amplifying their contentment. Secondly, it aligns with societal progress. Considering the present circumstances of elevated work-related stress, protracted working hours, and significant childcare expenses, reducing fertility rates have exacerbated concerns pertaining to the living conditions of the elderly. However, the prospective advancement of community-based elderly care services can alleviate these apprehensions, thus fostering societal equilibrium.

Author Contributions: Conceptualization, M.L. and W.L.; methodology, M.L. and W.L.; software, M.L. and W.L.; validation, Y.C.; formal analysis, M.L.; investigation, W.L.; resources, L.S.; data curation, W.L.; writing—original draft preparation, M.L. and W.L.; writing—review and editing, M.L. and Y.C.; supervision, M.L. and L.S.; project administration, L.S.; funding acquisition, L.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by "2022 Key Research Topics for Economic and Social Development in Heilongjiang Province" (22277), and "The Basic Scientific Research Business expenses in Universities in Heilongjiang Province (2022-KYYWF-1159)".

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Questionnaire
Part 1: Personal Information
Q1. What is your gender?
Male
Female
Q2. What is your age range?
Under 25 years old

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25-34 years old

35-44 years old

Above 45 years old

Q3. Your education?

No schooling

Elementary school

Junior high school

Undergraduate

Graduate student

PhD

Q4. What is your average monthly income?

3000 and below

3001-6000

6001-8000

Above 8000

Q5. What is the age of the elderly in your family?

A. Below 60 years old

B. 60-70 years old

C. 71-80 years old

D. Above 80 years old

Q6. What is the current living status of the elderly in your family?

A. Living alone

B. Elderly couples living together

C. Living with children

D. Living with children and grandchildren

Part 2: Views on the development of visiting, accompanying, and talking community elderly services

The main purpose of the visiting and talking service for the elderly in the community is to reduce the loneliness of the elderly, to pay attention to their mental health, and to make their lives more fulfilling. The following is a survey on the views of you and your family members on the development of this community-based elderly care service, please select the importance of the following options according to your actual situation.

1. Very unimportant 2. Unimportant 3. General 4. Important 5. Very important

No.	Question	1	2	3	4	5
Q7	I think there is a great need for community-based services for the elderly, such as visits and companionship.					
Q8	I would like to enroll myself or a family member in this community-based senior care service.					
Q9	I think that the community elderly services provided for visiting and accompanying and talking to me can make me happy and reduce my psychological stress and loneliness					
Q10	I feel that services were provided in a timely manner when I needed them					
Q11	I found the community aged care services provided to be very well regulated, safe, and reassuring for me and my family					

Part 3: Views on the provision of home-based community aged care services

The main purpose of the home care community elderly service is to reduce the stress of housework for the elderly and to create a clean and tidy environment for those who are physically weak or inconvenienced. The following is a survey on how you and your family members feel about the development of this community-based elderly care service. Please choose the importance of the following options according to your actual situation.

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1. Very unimportant 2. Unimportant 3. General 4. Important 5. Very important

No.	Question	1	2	3	4	5
Q12	I am currently in need of some or some kind of housekeeping services					
Q13	I think the home care community senior care services offered are a better deal than what's out there					
Q14	I think the home care workers trained by the organizers of community-based elderly services are more professional and safer					
Q15	I think the housekeeping services provided would be more convenient and accessible					
Q16	I think the service provided should be more quality assured.					

Part 4: Views on the provision of healthcare rehabilitation-based community elderly services

The medical care and rehabilitation service is mainly for the elderly who have no one
to take care of them, to go to the hospital for health checkups or hospitalization, or to take
care of the elderly when they are recovering from illnesses, with someone taking the place
of your children. The following is a survey on how you and your family members feel
about the development of this community-based elderly care service. Please select the
importance of the following options according to your actual situation.

1. Very unimportant 2. Unimportant 3. General 4. Important 5. Very important

No.	Question	1	2	3	4	5
Q17	I need to go to the hospital from time to time and have a need for this service.					
Q18	I find the provision of healthcare rehabilitation type of senior care services to be satisfactory					
Q19	I am willing to provide appropriate expenses for this purpose					
Q20	I think I can get that service in a timely manner					
Q21	I believe that the personnel in the services provided are specially well trained					
Q22	I think it is safer and more comfortable to provide services when the elderly are not accompanied by a person than to hire outside or go to the hospital on their own					

Part 5: Views on the provision of community elderly services such as recreational and catering services

Catering services are provided for those who do not know how to cook or are unable to cook, and appropriate recreational activities and entertainment venues are provided for the elderly to exercise and get along with others to increase communication. The following is a survey of your and your family's views on the development of this community-based elderly care service. Please select the importance of the following options according to your actual situation

1. Very unimportant 2. Unimportant 3. General 4. Important 5. Very important

No.	Question	1	2	3	4	5
Q23	I cook for myself from time to time.					
Q24	I'm willing to eat out.					
Q25	I need to work out from time to time.					
Q26	I thought the food service provided was clean					
Q27	I feel that the recreational programs offered meet my needs					
028	All things being equal, I think that community-based senior care is better than what's					
Q28	being done out there.					

Part 6: Views on their implementation of community-based elderly services for individualized needs

When some elderly people have special needs, we provide them with tailor-made activities and services to meet their needs. The following is a survey of your and your family's views on the development of this community-based elderly care service. Please select the importance of the following options according to your actual situation.

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1. Very unimportant 2. Unimportant 3. General 4. Important 5. Very important

No.	Question	1	2	3	4	5
Q29	I think it's great to have community-based senior care for every senior.					
Q30	I have some individual needs that set me apart from others					
Q31	I'm willing to pay something for it.					
Q32	I feel that the personalized community aging services provided meet my needs					
Q33	I think the people who provide the service are well trained and rigorous					
Q34	I think the services provided are safe and comfortable					

Part 7: Views on the provision of community aged care services

Please select the importance of the following options based on what you and your family think about how the community-based senior care industry, as a whole, is doing.

1. Very unimportant 2. Unimportant 3. General 4. Important 5. Very important

No.	Question	1	2	3	4	5
Q35	I think participating in community-based senior care is a big trend, and is normal in today's and tomorrow's demographic environments in China					
Q36	I think that participating in community-based senior services gives me and my family more peace of mind					
Q37	I think community care is better than nursing homes					
Q38	I'm very optimistic about the future of community-based senior care					
Q39	I would like to spread the word about community aged care and get more people to know about it and join in					

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