

# How to Persuade the Elderly in Taiwan to Use Long-Term Care Institutions: A Case Study in Southern Taiwan

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## ABSTRACT

Amid Taiwan's rapid aging, elderly reluctance toward institutional long-term care (LTC) persists despite rising demand. This study tests an integrated model of LTC adoption, linking needs/demands, communication channels, financial issues, service characteristics, quality control, safety perception, and behavioral intention. Using PLS-SEM on 316 valid responses from Southern Taiwan elderly, results confirm robust model validity. Key findings show needs/demands drive communication, finances, and service preferences; these enhance service perceptions and directly boost willingness; service preferences strongly predict quality control and safety (with partial mediation); and safety emerges as the dominant predictor of intention—while CSR and perceived value show no moderation, prioritizing tangible factors like adequacy, safety, and affordability. This advances LTC literature by validating a needs-driven, quality-centric model, revealing novel safety mediation pathways, and offering providers/policymakers targeted strategies: needs assessments, transparent communication, rigorous controls, and financial incentives to elevate utilization.

**Keywords:** Long-term care, elderly, service quality, safety perception, willingness to use

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## I. Introduction

The rapid aging of Taiwan's population poses one of the most pressing social and policy challenges of the 21st century. Taiwan officially entered the "aged society" category in 2018 and is projected to reach "super-aged" status ( $\geq 20\%$  aged 65+) within a few years, which substantially increases demand for long-term care (LTC) services. According to Chen et al., 2024, the demographic shift—characterized by low fertility, increasing life expectancy, and internal migration—creates both quantitative (service capacity) and qualitative (service acceptability) challenges for the LTC system.

In response, the Taiwanese government launched the 10-year Long-Term Care Plan 2.0 (LTC 2.0) to expand home- and community-based services and strengthen the continuum of residential care, aiming to relieve family caregivers' burden and to improve service accessibility (M. J. Yeh, 2020).

Despite substantial policy investment and service expansion, utilization of residential long-term care institutions by older adults remains constrained by social, cultural, informational, and perceptual barriers. Several studies suggest that while supply has grown, acceptance and actual uptake vary widely across regions and population subgroups (Xiao et al., 2024).

Existing Taiwanese studies have examined determinants of LTC preferences and institutionalization, identifying factors such as health status, functional dependency, socioeconomic position, family structure, perceived quality of nursing homes, and regional service availability. However, much of the quantitative work has focused on northern/urban samples or national policy evaluation; fewer studies have explored region-specific sociocultural dynamics and persuasion pathways that may be particularly salient in southern Taiwan. Notably, QoL and adaptation among institutional

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residents in southern Taiwan were studied decades ago, but contemporary research leveraging the post-LTC-2.0 context and qualitatively exploring persuasion—how older adults interpret, accept, or resist institutional care—remains the limitations (Ku et al., 2013).

From a policy and practice perspective, simply increasing institutional capacity is insufficient if older adults and their families are not persuaded that institutional care is acceptable, respectful of elder dignity, and capable of meeting their needs. Persuasion involves both informational elements (knowledge of services, eligibility, subsidies) and affective/cultural elements (trust, loss/gain framing, family reputation, perceived stigma) (Zhang, Lu, et al., 2022). Interventions that ignore these dimensions may fail to translate expanded supply into equitable utilization.

This study addresses these gaps by investigating how older adults in southern Taiwan are persuaded (or not) to use long-term care institutions. Using a quantitative case study approach in selected districts of southern Taiwan, the research aims to (1) map perceived barriers and facilitators to institutional LTC use from the perspectives of elders, family caregivers, and care professionals; (2) identify the role of communication channels and Financial situations in shaping acceptance; and (3) derive actionable persuasion strategies—communication frames for safe, service features, and perceived service value, CSR—that can increase appropriate institutional use while respecting cultural norms and elder autonomy. The case study approach allows in-depth, context-sensitive analysis essential for translating national policies like LTC 2.0 into effective local practice (S. C. Wu et al., 2009).

By focusing on southern Taiwan—a region with its own demographic profile, health service distribution, and perceived value—this research contributes both theoretically and practically. Theoretically, it extends models of health-care decision making by integrating cultural persuasion constructs to modify the kinds of services into institutionalization frameworks. Practically, it offers evidence-based recommendations for policymakers and providers to design culturally congruent outreach, subsidy communication, and service packaging that can increase the acceptability and appropriate use of institutional LTC. The following sections review

the literature on LTC preferences and institutionalization in Taiwan, articulate testable research questions, and present the study's research design.

### II. Literature Review and Hypothesis Development

#### 2.1 Theoretical background

Taiwan's Long-Term Care Plan 2.0 (LTC 2.0), introduced in 2017, significantly expanded eligibility, promoted home-and-community-based services, and strengthened residential care as one pillar of a broader system intended to reduce family caregiver burden and prepare for rapid population ageing. The reform reoriented services toward a three-layer community network and introduced new subsidy and referral mechanisms to increase uptake of formal services (Hsu & Chen, 2019).

Studies examining predictors of LTC use identify a combination of need factors (functional limitations, dementia), enabling resources (income, availability of services, subsidies), and information/access pathways (referrals, knowledge sources). Older age, poorer functional status, and lack of available informal caregivers predict institutional use, while better community services and clearer subsidy pathways increase uptake of formal care options. Recent Taiwan-specific analyses also highlight the role of information channels and migrant live-in carers in shaping service utilization (Tsai et al., 2024).

Applying behavioral theories helps explain why knowledge alone often fails to change care choices. The **Theory of Planned Behavior (TPB)** holds that attitudes, subjective norms, and perceived behavioral control shape intentions and thus behavior; in the context of institutional care, TPB predicts attitudes toward institutions, and perceived ability to arrange institutional placement will determine willingness to use institutional services (Ajzen, 2020).

The **Health Belief Model (HBM)** emphasizes perceived susceptibility, severity, perceived benefits and barriers, cues to action, and self-efficacy. HBM suggests that persuading elders and families requires reducing perceived barriers (e.g., stigma, cost), increasing perceived benefits (safety, professional care), and providing strong cues to action (trusted recommendations and visible subsidies). Empirical reviews of HBM applications in older adult health contexts confirm its utility for designing persuasive health

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messages (Rosenstock et al., 1988).

### 2.2 Hypothesis Development

#### 2.2.1 Needs & Demands and Communication Channels

“Needs” and “demands” for long-term care among older adults represent the perceived functional, health, social and psychological requirements of ageing individuals (e.g., disability, chronic disease, daily living assistance) and their expression in seeking services. In Taiwan, the rapidly ageing population has generated growing demand for long-term care services. At the same time, how older persons become aware of such services depends heavily on communication channels (formal and informal) (Chang et al., 2025).

For example, in a recent Taiwanese study, the sources of information (government promotional events, local care-centers, friends/relatives, media) significantly influenced utilization of long-term-care services. Thus, when need/demand is higher, the older person (or family) is more likely to engage with different communication channels (seek information, ask about services) — and better communication channels may amplify the effect of needs on awareness/demand (Wu et al., 2014; Hong, Hong, 2024).

**Hypothesis 1 (H1):** The needs & demands of elderly persons will be positively impacted to communication channel about long-term care institutions.

#### 2.2.2 Needs & Demands and Kinds of Services

When older adults (or their families) perceive high need for care—whether due to frailty, chronic illness, functional limitations—they will be more selective or demand a wider range of services (e.g., day care, institutional care, specialized dementia care). In Taiwan’s LTC policy landscape, the “Kinds of Services” (home care, community care, institutional care) have expanded under Long-Term Care 2.0 (Chou et al., 2014). Also, a qualitative Taiwanese study emphasized that older persons tend to prefer home or community-based services unless their needs become very severe. For example, a study exploring relocation experiences of older adults found that tailored, individualized institutional services were highly valued when needs increased (Chaulagain, 2025).

**Hypothesis 2 (H2):** Higher needs & demands among the elderly are positively influenced to the kinds of long-term care services

#### 2.2.3 Needs & Demands and Financial Issues

Needs for long-term care often led to cost concerns: institutional care is typically more expensive than home care or community services. In Taiwan, research has noted that even though the government has expanded coverage, many LTC services remain self-pay, and financial burden remains a barrier. According to Yang et al. (2016); M.Yeh (2019) when a person recognizes high needs & demands, concern about how to pay may become more salient. Conversely, perceived financial constraints may moderate the willingness to acknowledge or act on need.

**Hypothesis 3 (H3):** Greater perceived needs & demands among the elderly are positively associated with increased attention to financial issues.

#### Communication Channels and Kinds of Services

The way information is communicated (through formal or informal channels) influences what kinds of services older persons become aware of and subsequently consider. For example, Hong’s (2024) study in Taiwan found that awareness of services among older adults depended on their information sources. In addition, Chang et al. (2025) found that households’ utilization of formal LTC services was significantly influenced by the mix of formal vs informal information sources. Therefore, effective communication channels can increase exposure to different service-types (e.g., institutional care) and promote service choice (Ratchavieng, 2020; I. Kostov, 2025). Hence:

**Hypothesis 4 (H4):** Communication channels are positively associated with a greater variety—or broader consideration—of kinds of long-term care services among the elderly.

#### Financial Issues and Kinds of Services

Financial considerations (affordability, subsidies, cost-sharing) impact the kinds of services elderly persons are willing to consider (Rabiner et al., 2015). For example, institutional care, being more expensive, may require substantial out-of-pocket funds or family contributions; home/community services may be cheaper or subsidized. In Taiwan, the policy shift under LTC 2.0 increased coverage but institutional care remains less emphasized and cheaper alternatives persist. Thus, when financial issues are perceived as more burdensome, older persons may restrict their choice of service-kinds (e.g., stay with cheaper home/community care) or vice versa (Halásková et al., 2017). Therefore:

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**Hypothesis 5 (H5):** Greater concerns about financial issues are negatively (or restrictively) associated with the kinds of long-term care services considered or utilized by elderly persons.

### 2.2.6 *Kinds of Services and Safety*

“Kinds of Services” refers to the type of service (institutional care vs home care vs community-based care) that older adults consider. Their perception of safety (physical, psychological, institutional safety) is likely influenced by the service kinds (Lee & Kang, 2022). Institutional care may raise concerns about infection, environment, adaptation; home care may feel safer and familiar. Taiwanese institutional care literature highlights place identity (autonomy) and life-adaptation among residents. Also, satisfaction studies note safety, environment, and care quality among older persons in institutions (S.Chen et al., 2020). Thus:

**Hypothesis 6 (H6):** The kinds of long-term care services considered by elderly persons are significantly associated with their perception of safety in the care context

### 2.2.7 *Safety and Willing Acceptation*

Perceived safety (in terms of environment, staffing, infection control, care quality) is a major determinant of willingness to accept institutional care. If a facility is regarded as safe—adequate staffing, infection control, supportive environment—the older person will be more willing to accept admission (Prajankett, 2020). In Taiwan, the satisfaction study found that attitudes toward safety and environment influence public attitude toward LTC services. Moreover, “place identity and life adaptation” among institutional residents (Briggs, Andrew M., 2018) emphasized safety and adaptation as factors of acceptance.

**Hypothesis 7 (H7):** Higher perceived safety in a long-term care context is positively impacted to the elderly (or their families) willingness to accept institutional care.

### 2.2.8 *The Mediator Role of Quality Control between Kinds of Services and Safety*

Quality control (e.g., institutional accreditation, regulatory compliance, monitoring of care standards) can enhance perceived safety by ensuring service quality, reducing risk (Donabedian, 2015). In Taiwan, there have been quality improvement initiatives (e.g., infection-control inspections in LTCFs) by the

Taiwan Centers for Disease Control and other bodies. According to Campbell et al. (2000), the kinds of services chosen (institutional vs home vs community) may have differing levels of formal quality control. Thus, the relationship between service kind and safety is mediated by the degree of quality control: better quality control enhances the safety perception of certain service kinds (Carvalho et al., 2017).

**Hypothesis 8 (H8):** Quality control practices mediate the relationship between the kinds of long-term care services and perceived safety.

### *Kinds of Services and Quality Control*

Different service types (institutional care, home care, community day-care, etc.) may be subject to different levels of regulation and quality-control mechanisms (Clemens et al., 2021). For example, institutions may be more formally regulated than informal home services. The “Dimensions of quality in long-term care facilities in Taiwan” study identifies environment, nursing competence, assurance mechanisms as key quality dimensions (Chou et al., 2018). Therefore, the type of service has a direct effect on the quality control level perceived.

**Hypothesis 9 (H9):** The kinds of long-term care services chosen by elderly persons are significantly associated with the level of quality control they perceived.

### *Quality Control and Safety*

Robust quality control (i.e., accreditation, monitoring, appropriate staffing, standardized protocols, infection control) contributes directly to perceived and actual safety of long-term care institutions (Halligan et al., 2014). Taiwanese evidence demonstrates that improved inspection and staff training lead to better outcomes and confidence in LTCFs (Kalideen et al., 2022). The empirical work emphasizes that service quality—including environment, competence, assurance mechanisms—affects satisfaction and safety perceptions (Abusalem et al., 2019). Thus, quality control positively influences safety perception.

**Hypothesis 10 (H10):** Stronger quality control in long-term care institutions is positively associated with higher perceived safety among older persons considering institutional care.

### *Communication channels and Willing Acceptation*

Effective communication channels do not only inform about needs/service kinds and costs—they also shape attitudes and willingness. When

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older adults and their families receive trustworthy information about institutional care (what it involves, safety, services, costs) via effective channels (government programs, media, peer testimony), their willingness to accept institutional care increases (Schroeder et al., 2023). Taiwanese research on information sources supports that how information is delivered relates to utilization. When older persons have been reached by communication channels that emphasize safety, service kinds, affordability, they may feel more comfortable and willing to accept institutional placement (Nordin et al., 2022).

**Hypothesis 11 (H11):** The use of effective communication channels is positively impacted to the elderly's (or their families') willingness to accept institutional long-term care.

### 2.2.12 Financial Issues and Willing Acceptation

If older persons or families perceive institutional long-term care as financially burdensome (high cost, low subsidy, unpredictable fees), their willingness to accept such placement may decline (Ziyue Huang, 2018). Studies in Taiwan show financial burden as a barrier in LTC utilization. Thus, financial concerns are negatively associated with willingness to accept institutional care (Ronkainen et al., 2021).

**Hypothesis 12 (H12):** Greater perceived financial burdens are negatively associated with the willingness of older persons (or their families) to accept institutional long-term care.

## III. Research Methodology

### 3.1 Research Model

The research framework underpinning this study is developed based on the proposed hypotheses (Figure 1). This study integrates the Theory of Planned Behavior (TPB) (Ajzen, 2011) and the Health Belief Model (HBM) (Andersen, 2013; Champion, V. L., & Skinner, 2008) to explain the psychological and perceptual factors influencing the elderly's willingness to enter long-term care institutions.

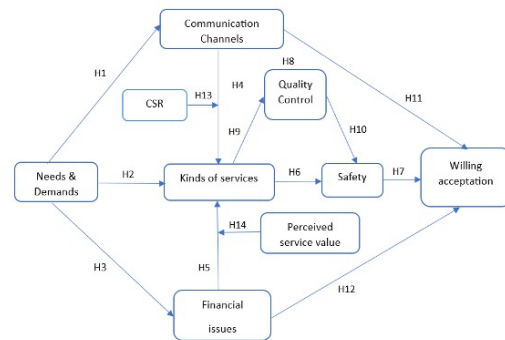


Figure 1. Research Framework.

### 3.2 Research Design

This study employed a quantitative research design using a structured questionnaire to examine the factors influencing elderly individuals' willingness to use long-term care (LTC) institutions in Southern Taiwan. The model incorporated both mediating and moderating mechanisms to provide a comprehensive understanding of the determinants of LTC adoption. Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized to test the hypothesized relationships, including the mediator role of *Quality Control* (H8) and the moderating effects proposed in H13 and H14.

### 3.3 Instrument Development

The survey instrument was initially developed in Traditional Chinese to ensure linguistic and cultural appropriateness for the target population. To enhance content accuracy and cross-language validity, the questionnaire was translated into English by three expert translators, all of whom hold Master's degrees or higher—two based in Australia and one in Canada. A standard forward-translation procedure was adopted, and the expert panel resolved discrepancies to improve semantic, conceptual, and technical equivalence across versions.

All construct items were measured using a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree). The questionnaire included demographic questions and scales assessing perceptions of LTC institutions, quality control, psychological determinants, and intention to use LTC services.

### 3.4 Data Collection Procedures

Data collection was conducted over a six-month period from April 2025 to September 2025. A multi-channel approach was employed to maximize participation and improve sample coverage of the elderly population in Southern

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Taiwan. The survey link was disseminated via: Google Forms (distributed through Google Drive), LINE, Facebook, and Direct on-site distribution in selected long-term care institutions in Southern Taiwan.

In total, 325 responses were collected. After screening for incomplete or invalid responses, 316 valid samples were retained for analysis.

### 3.5 Pilot Study

Prior to the main survey, a pilot test was conducted with more than 70 respondents to assess clarity, reliability, and item structure. Feedback from pilot participants allowed for refinement of wording and formatting. Reliability tests showed that all constructs exceeded acceptable thresholds, demonstrating the instrument's suitability for the full-scale survey.

### 3.6 Data Analysis Procedures

The data analysis was conducted using both SPSS and partial least squares structural equation modeling (PLS-SEM). First, SPSS was employed to perform descriptive statistics, data screening, and checks for missing values to ensure data quality. The software was also used to assess the reliability of the pilot test and to compute Cronbach's alpha coefficients for all constructs. In addition, exploratory factor loading analyses were carried out to preliminarily verify item performance. All measurement scales exhibited satisfactory internal consistency, with Cronbach's alpha values meeting or exceeding the recommended threshold of 0.70, indicating acceptable reliability.

Subsequently, PLS-SEM was applied due to the complexity of the conceptual model, its predictive orientation, and the appropriateness of the technique for medium-sized samples. The analytical procedures included the evaluation of the measurement model—specifically factor loadings, average variance extracted (AVE), composite reliability (CR), and discriminant validity. The structural model was then examined through path coefficients and model fit indices. Furthermore, the mediating effect of Quality Control (H8) and the moderating effects proposed in H13 and H14 were tested within the PLS-SEM framework. Bootstrapping procedures were used to assess the statistical significance of all hypothesized relationships.

## IV. Results and Discussion

### 4.1. Respondent Characteristics

A total of 316 valid responses were collected for this study. As shown in Table 1, the sample comprised a higher proportion of females (58.9%) than males (41.1%). In terms of age distribution, respondents under 45 years old constituted the largest group (33.2%), followed by those aged 56–65 (31.0%), respondents aged 65 and above (22.2%), and those aged 46–55 (13.6%). Most participants were married (65.5%), while 26.6% were single, 6.0% widowed, and 1.9% divorced. Regarding educational attainment, nearly half of the respondents had a college degree or higher (46.5%), whereas 26.9% completed high school, 12.7% secondary education, and 11.7% primary schooling, with only 2.2% reporting no formal education.

Monthly household income levels varied, with 38.3% earning above NT\$60,000, followed by 25.6% reporting NT\$40,000–60,000, and 22.8% earning NT\$20,000–40,000; only 13.3% had an income below NT\$20,000. In terms of living arrangements, the majority lived with children or other family members (65.8%), while 23.7% lived with a spouse, 10.1% lived alone, and a small proportion (0.3%) reported other arrangements. Regarding preferences for long-term care services, nearly half of the respondents favored daycare centers (49.1%), followed by in-home care (25.9%), assisted living facilities (15.2%), and nursing homes (9.5%), with 0.3% selecting other options.

Table 1. Respondents' characteristics.

	<b>Descriptive Variable</b>	<b>Frequency (n=316)</b>	<b>Percent age (%)</b>
Gender	Male	130	41.1
	Female	186	58.9
Age (years old)	Under 45	105	33.2
	46-55	43	13.6
	56-65	98	31.0
	65 Above	70	22.2
Marital Status	Single	84	26.6
	Married	207	65.5
	Widowed	19	6.0
	Divorced	6	1.9
	No formal education	7	2.2

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Education Level	Primary education	37	11.7
	Secondary education	40	12.7
	Highschool education	85	26.9
	College or Higher	147	46.5
Monthly Household Income	Below 20,000	42	13.3
	20,000 – 40,000	72	22.8
	40,000 – 60,000	81	25.6
	Above 60,000	121	38.3
Living Arrangement	Living alone	32	10.1
	Living with spouse	75	23.7
	Living with children/family members	208	65.8
	Others	1	0.3
Preferred Type of Long-Term Care	In-home care	82	25.9
	Assisted living facility	48	15.2
	Nursing home	30	9.5
	Daycare center	155	49.1
Others	1	0.3	

### 4.2. Evaluation of the Measurement Model

Partial least squares structural equation modeling (PLS-SEM) was employed to assess the measurement model and to ensure that the constructs met the criteria for reliability, convergent validity, and discriminant validity. The results of the measurement model evaluation are summarized in Tables 2 and 3.

Tables 2. Reliability and Convergent Validity Assessment.

Variable	Cronbach's Alpha	CR	AVE	R <sup>2</sup>
CS	0.928	0.940	0.609	
FI	0.844	0.88	0.55	

		2	5	
ND	0.798	0.869	0.625	
PV	0.911	0.931	0.691	
CC	0.879	0.908	0.624	0.412
KS	0.820	0.875	0.584	0.660
QC	0.944	0.952	0.667	0.491
SA	0.870	0.906	0.660	0.695
WU	0.867	0.910	0.716	0.449

Table 2 presents the assessment of reliability and convergent validity for all constructs. The results indicate that internal consistency reliability was well established, as all Cronbach's alpha values exceeded the recommended threshold of 0.70, ranging from 0.798 (ND) to 0.944 (QC). Composite reliability (CR) values also met the acceptable criterion of 0.70, with all constructs falling between 0.869 and 0.952, confirming strong internal consistency. Convergent validity was supported, as the average variance extracted (AVE) values for all constructs surpassed the recommended cutoff of 0.50, indicating that each latent variable explained more than half of the variance of its indicators. The R<sup>2</sup> values for the endogenous constructs—CC (0.412), KS (0.660), QC (0.491), SA (0.695), and WU (0.449)—suggested moderate to substantial explanatory power according to (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2017) guidelines. Overall, these results confirm that the measurement model demonstrates satisfactory reliability and convergent validity and is suitable for subsequent structural analysis.

#### 4.2.1. Discriminant Validity Assessment

Table 3 reports the results of discriminant validity using both the Fornell–Larcker criterion and the heterotrait–monotrait ratio (HTMT). First, the Fornell–Larcker results show that the square roots of AVE (diagonal values) are greater than the inter-construct correlations for all variables. For example, CC (0.790), KS (0.764), QC (0.817), SA (0.813), and WU (0.846) each exceed their correlations with other constructs, indicating that each latent variable explains more variance in its own indicators than in any other construct. This

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pattern confirms discriminant validity according to Fornell & Larcker, David (1981) requirement.

Second, the HTMT values further support discriminant validity (Henseler et al., 2015). All HTMT ratios are below the conservative threshold of 0.85 (and none exceed the liberal threshold of 0.90). The highest HTMT value (PV–WU = 0.911) approaches but does not substantially violate the accepted upper limit, while most values fall between 0.50 and 0.85, demonstrating adequate separation between constructs. Therefore, both the Fornell–Larcker and HTMT criteria collectively confirm that the measurement model demonstrates satisfactory discriminant validity and that the constructs are empirically distinct.

Table 3. Discriminant Validity Results (Fornell-Larcker and HTMT Criteria).

Fornell-Larcker criterion									
	CC	CS	FI	KS	ND	PV	QC	SA	WU
CC	0.790								
CS	0.568	0.780							
FI	0.587	0.741	0.745						
KS	0.644	0.749	0.680	0.764					
ND	0.642	0.454	0.364	0.534	0.791				
PV	0.573	0.727	0.664	0.648	0.483	0.832			
QC	0.469	0.849	0.710	0.701	0.372	0.714	0.817		
SA	0.487	0.817	0.698	0.704	0.415	0.701	0.812	0.813	
WU	0.542	0.637	0.607	0.575	0.499	0.809	0.566	0.565	0.846
HTMT Matrix									
	CC	CS	FI	KS	ND	PV	QC	SA	WU
CC									
CS	0.622								
FI	0.672	0.819							
KS	0.752	0.850	0.800						
ND	0.745	0.525	0.412	0.661					
PV	0.627	0.790	0.719	0.746	0.565				
QC	0.507	0.905	0.786	0.785	0.424	0.768			
SA	0.545	0.908	0.802	0.825	0.492	0.785	0.891		
WU	0.608	0.709	0.649	0.679	0.599	0.911	0.622	0.645	

### 4.2.2. Effect Size ( $f^2$ ) Analysis

Following Cohen (1988) guidelines, several predictors demonstrated meaningful contributions to their endogenous variables. Notably, KS exerted a large effect on QC ( $f^2 = 0.965$ ), indicating that knowledge and support play a substantial role in shaping perceptions of quality. QC also showed a large effect on SA ( $f^2 = 0.655$ ), suggesting that perceived quality strongly influences satisfaction among elderly respondents. ND exhibited a large effect on CC ( $f^2 = 0.700$ ), highlighting the importance of need-driven factors in shaping concerns or considerations related to long-term care.

Moderate effects were observed for CC on KS ( $f^2 = 0.150$ ) and FI on SA ( $f^2 = 0.117$ ), indicating meaningful but not dominant contributions. Small but nontrivial effects included CC on WU ( $f^2 = 0.077$ ), FI on WU ( $f^2 = 0.067$ ),

ND on KS ( $f^2 = 0.032$ ), and PV on KS ( $f^2 = 0.004$ ), reflecting more modest predictive influence. SA on WU ( $f^2 = 0.051$ ) also demonstrated a small effect, suggesting that satisfaction contributes to willingness to use long-term care institutions, though other factors may also be influential. Overall, the  $f^2$  values indicate that the model contains a mix of large, moderate, and small effect sizes, reinforcing the structural model's explanatory richness.

### 4.3. Evaluation of the Structural Model

To assess the structural model, a bootstrapping procedure with 5,000 resamples was performed using data collected from 316 valid respondents. This approach allowed for the estimation of path coefficients, t-values, and confidence intervals to evaluate the significance of the hypothesized relationships. The results indicate which paths are statistically supported and demonstrate the overall predictive relevance of the model. In addition, multicollinearity was examined and found to be within acceptable thresholds, ensuring the robustness of the structural estimates.

#### 4.3.1. Multicollinear Test

Multicollinearity was assessed using the variance inflation factor (VIF) values presented in Table 4. All VIF scores ranged between 1.000 and 2.987, which fall well below the recommended threshold of 5.0 (Hair et al., 2017), indicating no serious multicollinearity concerns among the predictor variables. Specifically, constructs such as CC (VIF = 2.316–1.553), CS (VIF = 2.987), FI (VIF = 2.651–2.308), KS (VIF = 1.000–1.965), ND (VIF = 1.000–1.829), PV (VIF = 2.522), QC (VIF = 1.965), and SA (VIF = 1.984) all met the required criteria. These results confirm that the explanatory variables do not exhibit redundancy and that the structural model estimates are stable and reliable (Hair, J. F., et al., 2021).

Table 4. Multicollinear Test

	CC	KS	QC	SA	WU
CC		2.316			1.553
CS		2.987			
FI		2.651			2.308
KS			1.000	1.965	
ND	1.000	1.829			
PV		2.522			
QC				1.965	

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SA					1.984
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### 4.3.2. Direct and Indirect Effects

The structural model assessment demonstrates that all hypothesized direct relationships are statistically significant (Table 5). Needs & Demands (ND) exert strong positive effects on Communication Channels (CC) (H1,  $t = 17.171, p < 0.001$ ), Kinds of Services (KS) (H2,  $t = 3.123, p = 0.002$ ), and Financial Issues (FI) (H3,  $t = 5.872, p < 0.001$ ), indicating that greater perceived needs among the elderly substantially shape their evaluation of long-term care options. Both CC and FI significantly influence KS (H4,  $t = 3.086, p = 0.002$ ; H5,  $t = 3.022, p = 0.003$ ), suggesting that perceptions of care quality and economic considerations enhance seniors' informational readiness regarding long-term care institutions.

Kinds of services further contributes to Safe (SA) (H6,  $t = 5.316, p < 0.001$ ), which in turn predicts Willingness to Use (WU) long-term care institutions (H7,  $t = 2.804, p = 0.005$ ). In addition, KS strongly predicts Quality Control (QC) (H9,  $t = 16.781, p < 0.001$ ), and QC significantly enhances SA (H10,  $t = 12.910, p < 0.001$ ), highlighting the central role of information-driven judgments in shaping Safe. Finally, both CC and FI directly increase WU (H11,  $t = 3.678, p < 0.001$ ; H12,  $t = 3.060, p = 0.002$ ), confirming that care considerations and financial support mechanisms remain key drivers for persuading the elderly to adopt institutional long-term care. Overall, the results collectively support the structural model and emphasize the importance of need recognition, informational support, perceived quality, and satisfaction in influencing elderly individuals' willingness to use long-term care facilities.

Table 5. Direct Effect Results

Hypothesis	Path	Standard Deviation	<i>t</i>	<i>p</i>	Remarks
H1	ND ->	0.037	17.17	0.00	Supported
	CC		1	0	
H2	ND ->	0.045	3.12	0.00	Supported
	KS		23	2	

H3	ND ->	0.066	5.87	0.00	Supported
	FI		72	0	
H4	CC ->	0.062	3.09	0.00	Supported
	KS		86	2	
H5	FI ->	0.060	3.02	0.00	Supported
	KS		22	3	
H6	KS ->	0.050	5.32	0.00	Supported
	SA		16	0	
H7	SA ->	0.084	2.80	0.00	Supported
	WU		04	5	
H9	KS ->	0.042	16.78	0.00	Supported
	QC		1	0	
H10	QC ->	0.049	12.91	0.00	Supported
	SA		0	0	
H11	CC ->	0.070	3.68	0.00	Supported
	WU		78	0	
H12	FI ->	0.095	3.06	0.00	Supported
	WU		60	2	

The analysis of indirect effects reveals mixed results across the mediation and moderation hypotheses (Table 6). First, the mediating role of Quality Control (QC) between Kinds of Services (KS) and Safe (SA) is statistically significant (H8,  $t = 2.570, p = 0.010$ ). This indicates that the influence of service variety on safe element operates partially through the elderly's perception of quality, supporting previous findings that perceived quality acts as a key mechanism linking service characteristics to user satisfaction in long-term care settings (Castle & Ferguson, 2010; Sørbye, 2018; Zhang, Hongxia, et al., 2022). The result underscores the importance of ensuring consistent service quality when promoting diverse service options to older adults.

In contrast, both moderation hypotheses (H13 and H14) are unsupported. The interaction of Corporate Social Responsibility (CSR) and Communication Channels (CC) does not significantly predict Kinds of Services (KS) (H13,  $t = 0.307, p = 0.758$ ), suggesting that CSR perceptions do not strengthen or weaken how

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communication affects service preference among the elderly. This aligns with studies indicating that seniors may prioritize service accessibility and trust over broader CSR messaging in care decisions (Mah et al., 2021). Similarly, Perceived Value (PV) does not moderate the relationship between Financial Issues (FI) and KS (H14,  $t = 0.305$ ,  $p = 0.761$ ). This suggests that financial concerns influence service selection regardless of whether elderly individuals perceive high or low value, consistent with research emphasizing that affordability is a dominant and stable determinant in long-term care utilization (Shih et al., 2020).

Overall, the indirect effects highlight that while service quality perception functions as a meaningful mediator, neither CSR nor perceived value serves as a significant boundary condition in shaping elderly individuals' preferences for long-term care services.

Table 6. Results of Indirect Effects

Hypothesis	Path	Standard Deviation	<i>t</i>	<i>p</i>	Remarks
H8	KS->QC->SA	0.040	2.570	0.010	Supported
H13	CS x CC->KS	0.041	0.307	0.758	Unsupported
H14	PV x FI->KS	0.003	0.305	0.761	Unsupported

### V. Conclusions and Suggestions

#### 5.1. Research Conclusion

This study set out to examine how elderly individuals in Southern Taiwan can be effectively persuaded to use long-term care institutions by integrating need-based factors, informational mechanisms, perceived quality, safety perceptions, and behavioral willingness within a comprehensive PLS-SEM framework. Overall, the findings provide robust empirical support for the proposed model and offer both theoretical and practical insights into elderly decision-making in the context of long-term care.

First, the evaluation of the measurement model confirms that all constructs demonstrate satisfactory psychometric properties. Internal

consistency reliability was well established, with Cronbach's alpha and composite reliability values exceeding the recommended thresholds, while convergent validity was supported by average variance extracted (AVE) values above 0.50 for all constructs. Discriminant validity was further confirmed through both the Fornell–Larcker criterion (Fornell & Larcker, 1981) and the HTMT ratio (Henseler et al., 2015), indicating that the latent variables are empirically distinct. In addition, the  $R^2$  values for key endogenous constructs—such as Kinds of Services, Safe, and Willingness to Use—demonstrate moderate to substantial explanatory power, suggesting that the proposed model captures meaningful variance in elderly long-term care adoption behavior (Hair et al., 2017).

Second, the structural model results highlight the central role of needs and demands as the primary antecedent shaping elderly decision-making. Needs and demands significantly influence communication channels, financial issues, and preferences for kinds of services, underscoring that elderly individuals' recognition of health, care, and daily living needs serves as the starting point for evaluating institutional long-term care options. This finding is consistent with prior studies emphasizing that perceived necessity is a dominant driver of long-term care utilization among older adults (Shih et al., 2020; Mah et al., 2021).

Third, the results demonstrate that information-related mechanisms and service characteristics play a critical mediating role in persuading elderly users. Communication channels and financial considerations significantly enhance perceptions of service types, which in turn positively affect safety perceptions and overall satisfaction. Notably, kinds of services exert a strong effect on quality control, and quality control has a substantial impact on safety perceptions. The large effect sizes observed in these paths reinforce the argument that elderly individuals rely heavily on tangible service attributes and perceived quality when evaluating institutional care (Castle & Ferguson, 2010; Karim et al., 2024).

Fourth, this study confirms that safety perception and satisfaction are key proximal determinants of willingness to use long-term care institutions. Safety significantly predicts willingness to use, while communication channels

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and financial issues also exert direct effects on behavioral intention. These findings align with behavioral decision-making theories suggesting that trust, perceived security, and affordability jointly shape adoption intentions among older populations (Wang et al., 2018).

Finally, the analysis of indirect effects reveals that quality control plays a meaningful mediating role between kinds of services and safety perceptions, highlighting quality perception as a critical psychological mechanism linking service provision to user confidence. In contrast, the moderating effects of corporate social responsibility and perceived value were not supported. This suggests that, for elderly individuals, practical considerations such as service adequacy, safety, and affordability outweigh abstract or symbolic evaluations when making long-term care decisions. This finding is consistent with prior evidence indicating that older adults tend to prioritize functional and trust-related factors over broader value-based or CSR-related cues. (Mah et al., 2021).

This study concludes that persuading the elderly in Taiwan to use long-term care institutions requires a needs-driven, information-rich, and quality-centered approach, where service design, quality assurance, safety perception, and financial clarity collectively shape behavioral willingness. By empirically validating these relationships, this research contributes to the long-term care literature and provides a theoretically grounded explanation of elderly adoption behavior in an aging society.

### 5.2. Managerial and Policy Implications

The findings of this study offer several important managerial and policy implications for long-term care (LTC) institutions, policymakers, and practitioners seeking to increase elderly individuals' willingness to use institutional care in Taiwan.

From a managerial perspective, the results clearly indicate that needs and demands serve as the foundational driver of elderly decision-making. Long-term care providers should therefore adopt a needs-oriented service design strategy that explicitly addresses seniors' physical health conditions, daily living assistance, and emotional security. Assessment tools that systematically evaluate elderly needs prior to service recommendation can enhance perceived relevance and reduce resistance to institutional

care, consistent with prior research emphasizing personalized care planning in LTC settings.

Second, the strong effects of communication channels and financial issues on kinds of services and willingness to use highlight the necessity of transparent, accessible, and elderly-friendly communication strategies. LTC institutions should prioritize face-to-face consultations, family-mediated communication, and simplified informational materials rather than relying solely on digital platforms. Clear explanations of service content, care processes, and cost structures can significantly reduce uncertainty and strengthen trust, which has been identified as a critical determinant of elderly care acceptance. Moreover, given the direct influence of financial issues on willingness to use, managers should actively communicate subsidy eligibility, installment payment options, and government-supported financial assistance programs to alleviate affordability concerns.

Third, the results underscore quality control as a pivotal mechanism linking service variety to safety perception. The large effect size of quality control on safety suggests that LTC institutions must move beyond service diversification alone and place strong emphasis on standardized care procedures, staff training, and continuous quality monitoring. Certification systems, transparent quality audits, and visible safety protocols can enhance elderly residents' confidence and satisfaction, thereby increasing their willingness to adopt institutional care. This finding reinforces the view that perceived quality, rather than service quantity, is the key determinant of elderly trust in care institutions.

From a policy perspective, the findings suggest that public authorities should prioritize need-based long-term care policies rather than one-size-fits-all approaches. Policymakers can enhance LTC utilization by integrating systematic needs assessments into Taiwan's long-term care insurance and subsidy frameworks. Policies that align service allocation with individual care needs can improve both efficiency and user acceptance, echoing prior recommendations in aging and social welfare research.

In addition, government agencies should strengthen public communication and outreach initiatives targeting elderly populations and their families. Since communication channels significantly influence service perception and

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behavioral intention, public–private collaboration in disseminating accurate, trustworthy information about LTC services is essential. Community centers, healthcare providers, and local governments can serve as trusted intermediaries to bridge information gaps and counteract misconceptions about institutional care.

Finally, the nonsignificant moderating effects of corporate social responsibility and perceived value suggest that policymakers and managers should be cautious in overemphasizing symbolic or abstract messaging when promoting LTC services to older adults. Instead, policy interventions should focus on tangible improvements in service quality, safety assurance, and financial accessibility. This pragmatic orientation aligns with empirical evidence indicating that elderly individuals prioritize functional benefits and risk reduction over broader value-based narratives when making care decisions.

The results imply that effective persuasion of elderly individuals to use long-term care institutions requires coordinated efforts at both managerial and policy levels, emphasizing needs-based service provision, transparent communication, rigorous quality control, and financial support mechanisms. Such strategies are essential for improving long-term care adoption in Taiwan's rapidly aging society.

### 5.3. Research Limitations and Future Research Directions

Despite the theoretical and empirical contributions of this study, several limitations should be acknowledged, which also provide avenues for future research.

First, this study adopts a cross-sectional research design, which restricts the ability to draw causal inferences among the constructs. Although PLS-SEM is suitable for theory development and predictive analysis, the relationships identified in this study reflect associations at a single point in time. Future research could employ longitudinal designs to examine how elderly individuals' needs, perceptions of quality, safety, and willingness to use long-term care institutions evolve over time, particularly before and after actual service adoption. Such designs would provide deeper insight into causal mechanisms and behavioral change processes in long-term care decision-making (Hair et al., 2017).

Second, the data were collected from

elderly respondents in Southern Taiwan, which may limit the generalizability of the findings to other regions or cultural contexts. Taiwan exhibits regional differences in healthcare accessibility, family structures, and long-term care resources. Future studies could extend this research framework to other regions of Taiwan or conduct cross-national comparisons with societies facing similar aging challenges, such as Japan, South Korea, or European countries. Comparative studies would help identify whether the observed relationships are culturally specific or universally applicable in aging societies.

Third, this study relies on self-reported survey data, which may be subject to common method bias and social desirability effects, particularly given the sensitive nature of long-term care decisions among elderly individuals. Although methodological remedies were applied and the measurement model demonstrated strong reliability and validity, future research could incorporate multi-source data, such as caregiver evaluations, institutional records, or objective quality indicators, to triangulate findings and enhance measurement robustness.

Fourth, while the model explains a substantial proportion of variance in key outcomes such as safety perception and willingness to use, additional explanatory variables may further enrich the model. Future research could integrate psychological and social factors, such as family influence, cultural norms regarding filial piety, prior caregiving experience, health literacy, or trust in government institutions. These factors have been highlighted in prior aging and healthcare studies as influential in elderly care decisions but were beyond the scope of the present research.

The nonsignificant moderating effects of corporate social responsibility and perceived value suggest opportunities for theoretical refinement. Future studies may explore alternative moderators—such as risk perception, prior institutional experience, or family decision involvement—or test different conceptualizations of CSR and value that are more salient to elderly populations. Qualitative approaches, including in-depth interviews or focus groups, may also help uncover how older adults interpret abstract constructs such as CSR and value in the context of long-term care services.

In conclusion, while this study provides a

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validated and contextually grounded model for understanding elderly willingness to use long-term care institutions in Taiwan, addressing these limitations through diverse methodologies, expanded samples, and enriched theoretical perspectives will further advance research on long-term care adoption in aging societies.

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