

RESEARCH ARTICLE

Factors affecting preregistered nurses' willingness to serve in geriatric long-term care

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Abstract

Aim: Rapidly ageing population leads to increased demands for long-term care. Taiwan's preparation for its ageing population focuses on engaging healthcare professionals. This study explored pre-registered nurses' current knowledge, experience in geriatric long-term care (GLTC) and willingness to serve in GLTC.

Design: A cross-sectional survey design and a self-developed structured questionnaire were used.

Methods: A probability proportionate to size sampling strategy was used to collect data from students in junior college and bachelor of nursing science programmes in Taiwan in 2017. Multiple regression was adopted to predict significant factors that influence nursing students' willingness to serve in GLTC.

Results: The willingness to serve in GLTC was positively correlated with their experience of living with older adults, practicum experience, taking GLTC-related courses and interest in GLTC. Willingness to serve older/disabled patients can be enhanced through school courses and practicum experiences, indicating the importance of GLTC-related courses in the training of the professional nursing workforce.

KEYWORDS

geriatric long-term care, nursing students, older adults, willingness to serve

1 | INTRODUCTION

The world's population is ageing; there will be an estimated 1.4 billion people aged ≥ 60 years in the world by 2030 and 2.1 billion by 2050 (World Health Organization, 2019). Taiwan is also facing an increasingly aged population and declining birth rates. In 2018, people ≥ 65 years old constituted 14 per cent of Taiwan's population, making Taiwan an aged society (Ministry of Education, 2017). This has implications in the nursing field, and nursing students need to have geriatric nursing (GN) and long-term care (LTC) competence through initial education in GN and LTC practice settings in Taiwan

(Chi et al., 2016). The need for GN/LTC education has been recognized, and it has been included in nursing curricula to enhance nursing students' willingness to serve in GN/LTC and encourage their involvement in care for geriatric and disabled populations.

With socioeconomic development and advancements in medical technology, the model of medical cure-to-care education has also changed (Ayoglu et al., 2014). The incorporation of more geriatric LTC (GLTC)-related content in nursing curricula has been recognized as a pressing educational need. Many nursing students are not exposed to the specialized knowledge and skills needed to effectively serve older adults (Jang et al., 2019; Shen & Xiao, 2012).

[Correction added on 10 June 2021, after first online publication: An affiliation to College of Medicine, National Cheng Kung University, Taiwan, has been added to the author Fu-Chi Yang]

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GLTC education is relatively new, and we have limited understanding of the perspectives students have of ageing populations (Chai et al., 2019). Few graduate-level nursing students express a preference for caring for older adults before being employed as a nurse (Darling et al., 2018; Gilje et al., 2007; Ralph et al., 2009). There is a need to understand the final-year nursing students' willingness to serve in geriatric/long-term care in the hope of their involvement in the future care for the geriatrics and for the disabled to address the needs in the ageing society.

1.1 | Background

In the review of foreign experience that in the face of a rapidly ageing society, insufficient supply of nursing manpower was first identified in the United States. In the year of 1996, John A. Hartford Foundation invested a lot of research funds and cooperated with American Association of Colleges of Nursing (AACN) in the promotion of nursing education reforms to enable nursing graduates to be equipped with the capabilities needed for aged long-term care (American Association of Colleges of Nursing, 2010). First, a large-scale survey was conducted during 1997–2003 on the needs for gerontological nursing education and curriculum planning in all the states in the United States, hoping to incorporate the content and the concept of geriatric nursing care into mandatory courses in undergraduate nursing education; and in year 2010, the *Recommended Baccalaureate Competencies and Curricular Guidelines for the Nursing Care of Older Adults* was developed in an hope to enable nursing students to be equipped with capabilities for geriatric nursing care before entering the nursing workplace (American Association of Colleges of Nursing, 2010; Berman et al., 2005).

To meet the rapid growth of the elderly population and disable needs, Taiwan's Ministry of Health and Welfare has provided annual professional Long-Term Care (LTC) training programmes to all healthcare providers to enhance their LTC-related knowledge and care attitude towards LTC clients. Furthermore, the Long-term Care Services Act was enacted in June 2015 as the principal legal basis for developing comprehensive LTC services in Taiwan. All LTC service providers are required to be prepared with LTC competence through initial education to practise in LTC settings. Further, in 2016, Long-Term Care plan 2.0 has been announced which have demonstrated the importance of LTC for all healthcare professionals to be equipped with GLTC (Hsieh & Chen, 2017b).

In the planning of education of long-term care for the older adults, the basic theoretical courses including psychology, nutrition and psychology are emphasized in colleges; management courses including care management and policies and regulations are focused in science and technology colleges; basic theoretical courses and management courses are both emphasized to take care of two-way knowledge of care and management; in the future positioning and development, the junior colleges focus on the nurturing of care specialists while in the on-the-job programmes, professional services and management expertise should be strengthened because of the

nature of the students; technical colleges and general university should recruit students with relevant care experiences for cross-disciplinary learning or for further study while at the same time nurturing manpower with care and management skills; the graduate institutes are positioned at fostering long-term care policy development, policy assessment and study on policy implementation or senior management manpower (Hsieh & Chen, 2017a). However, there have not been studies exploring the geriatric long-term care nursing competencies of the final-year nurse students from different school systems and the influencing factors.

Accordingly, GLTC knowledge and skills should be included in nursing education programmes, in geriatric or LTC-related courses, to enhance pre-registered nurses' willingness to serve in GLTC (American Association of Colleges of Nursing, 2010; Berman et al., 2005; Chi et al., 2016). Therefore, the present study used a large-scale national survey involving final-year nursing students (pre-registered nurses) in Taiwan to explore the factors influencing their willingness to serve in GLTC. Specifically, this study addressed the following research questions:

- How willing are qualified pre-registered nurses to serve in GLTC?
- What is the correlation between new pre-registered nurses' willingness to serve in GLTC and their personal characteristics and current status in GLTC practice?

2 | METHODS

2.1 | Design

This study adopted a nationwide cross-sectional survey design to understand the current status of GLTC nursing, nurses' willingness to serve, and factors influencing them, with a focus on final-year nursing students in Taiwan.

2.2 | Setting and population

The study conducted in Taiwan involved pre-registered nurses. According to the Ministry of Education (2017), the total number of final-year students in different nursing school systems (14 universities, 13 technological universities, and 21 5-year junior colleges) in the 2017 school year was 14,389, excluding part-time students.

2.3 | Sampling

Probability proportionate to size (PPS) sampling was used to collect data, and stratified random sampling was used (Midzuno, 1951). The advantage of applying PPS sampling is that the school system with the highest number of students would have higher probability of being chosen. Sample power assessment was conducted randomly with an equal ratio to the scale, and the expected sample size was

based on related studies and required for the dependent variables or for the research instruments to be stabilized. According to the Ministry of Education (2017), the total number of final-year students in different nursing school systems (14 universities, 13 technological universities and 21 5-year junior colleges) in the 2017 school year was 14,389, excluding part-time students. PPS sampling was conducted based on the proportion of final-year students in each school (9% in universities, 45% in technological universities and 46% in 5-year junior colleges), and the estimated sample sizes of these school systems resulted in 91, 453 and 466 students, respectively (total: 1,010 students). The inclusion criteria were final-year nursing students in the department of nursing programmes in Taiwan during the school year of 2017. Dropouts and transferred students were excluded.

2.4 | Data collection

Between April and July 2017, 1,010 questionnaires were distributed, and 949 valid questionnaires were received (response rate: 93.96%). These respondents were recruited from four academic school systems: 435 from 5-year junior college, 455 from technological universities and 59 from general universities.

2.5 | Research instruments

This study used a self-developed survey by the author to assess factors related to GLTC nursing competence and status of willingness to serve. The research inputs and instruments included demographic data, GLTC current status and willingness to serve in GLTC. Demographic data included participants' sex, age and prior experience of living with older adults or disabled people. Current status of GLTC included knowledge related to GLTC, courses taken, and practicum experiences. A 15-multiple-choice test with 15 options was used to examine the participants' level of GLTC knowledge, with the full score of 15. The GLTC Practicum Experience scale was used to explore the nursing students' GLTC-related practicum experiences with six items rated on a four-point Likert scale ranging from *strongly disagree* (0 point) to *strongly agree* (four points); higher scores indicated more GLTC-related practicum experience. The GLTC Course-Taking Status scale was used to survey the nursing students' status of taking GLTC-related courses, with five items each rated on a four-point Likert scale ranging from *Not Interested* (0 point) to *Very Interested* (three points). The Willingness to Serve in GLTC scale comprised 22 items rated on a four-point Likert scale, ranging from *strongly disagree* (0 point) to *strongly agree* (three points); the higher the score, the higher the willingness to serve in GLTC.

An external review of the scales was conducted by eight experts having credentials in GN or LTC. The ratings of each expert's response were then evaluated to establish the degree of content validity for each question and the overall questionnaire. The panel reported a mean individual content validity index (CVI) of 0.80, exceeding the recommended value of 0.78 (Polit & Beck, 2012). To assess feasibility

of the questionnaire, it was pilot-tested among a small sample of nursing students ($N = 30$) with satisfactory results. Ott and Longnecker (2010) the scales' consistency/reliability were found to be high (Cronbach's alpha 0.80 to 0.89). The reliability of the dichotomous questions was analysed using the Kuder-Richardson formula 20 (KR-20); the reliability of the GLTC-Related Knowledge scale was 0.67 and that of the GLTC Course-Taking Status scale was 0.66.

2.6 | Data analysis

Data were analysed using SPSS version 20 (SPSS). Demographic characteristics were summarized using descriptive statistics in terms of frequency distribution, percentages and mean \pm standard deviation. One-way analysis of variance (ANOVA), t tests, and Pearson's correlation coefficient were used to analyse the variance and correlations among demographic data, GLTC current status, and willingness to serve in GLTC. Multiple regression analysis and one-way analysis of variance with post hoc analysis using Fisher's exact least significant difference (LSD) was applied to detect any association between variables. Statistical significance was set at $p < .05$. In addition, a stepwise regression was adopted to predict the significant factors influencing the nurses' willingness to serve in GLTC (shown in Table 5).

3 | RESULTS

3.1 | Participants' personal and demographic characteristics

This study included the results of 949 (93.96%) participants who completed the questionnaire. Most participants were female (89.8%), with an average age of 20.95 ± 1.48 years. In all, 28.2 per cent of the respondents *Often* had the experience of living with older adults, followed by 25.7 per cent answering *Occasionally* and *Always* each. Most respondents (76%) *Never* had an experience of living with a disabled person, and 10.2 per cent *Occasionally* had interactions with them. The full demographic profile of the final sample is presented in Table 1.

3.2 | Current status of GLTC

The current status of GLTC among the nursing students included the students' GLTC-related knowledge, practicum experiences and GLTC-related course-taking. The results of GLTC-related knowledge revealed that the overall accuracy rate for the 15 knowledge items was 59.05 per cent, but the range was wide 7.33–91.41 per cent. The concepts with the lowest accuracy rates were GLTC Service Resources and Common Assessment Tools. Table 2 summarizes the accuracy rates of the concepts in the GLTC-related knowledge.

The GLTC-related Practicum Experience scale assessed the participants' experience in taking care of older adults and

disabled people is presented in Table 3. The results of the participants revealed that the frequency of contact with "older adults" (2.77 ± 0.75) was higher than that with "disabled" (2.01 ± 0.66) people in practicum settings, and currently, older adults are the focus of nursing students' practicum experiences. This showed that from the practicum experience, the ability to care with older adults or physically or mentally disabled people (3.21 ± 0.52) can be gained and the knowledge obtained could be applied to the care of the older adults or physically or mentally disabled people (3.21 ± 0.50).

TABLE 1 Personal attribute analysis of the subjects ($N = 949$)

Variables	N	%	Mean	SD
Gender ($N = 949$)				
Male	97	10.2		
Female	852	89.8		
Age ($N = 916$)			20.95	1.48
Experience living with the older adults ($N = 917$)				
Never	187	20.4		
Occasionally	236	25.7		
Often	258	28.2		
Always	236	25.7		
Experience living with the disabled ($N = 942$)				
Never	716	76		
Occasionally	96	10.2		
Often	61	6.5		
Always	69	7.3		

TABLE 2 Accuracy rates of the GLTC-related knowledge scale of the students from different school systems ($N = 949$)

Item	Concepts	N	Answer accuracy rate %	Rank
1	Ageing process, health promotion, disability and care	501	52.8	11
2	LTC policies and regulations	641	67.5	6
3	Care models	471	49.6	13
4	GLTC Service Resources	70	7.4	15
5	Continuity of Care	520	54.8	10
6	Common Assessment Tools	269	28.3	14
7	Evidence-based Nursing	782	82.4	2
8	Common Issues	613	64.6	7
9	Dementia Care	555	58.5	9
10	Geriatric Long-term Care Ethics	653	68.8	5
11	Alternative and Complementary Therapies	873	92.0	1
12	Care and Case Management and the Role of LTC managers	612	64.5	8
13	Communication and Leadership	729	76.8	3
14	Quality Monitoring and Assurance of LTC Quality	476	50.2	12
15	Caregivers' Role and Burden	694	73.1	4

The analysis of all the participants indicated that 76.3 per cent had taken Geriatric Nursing courses, and most of them had obtained two credits (94.23%); moreover, 76.23 per cent of them had taken the course as a mandatory one. Most of them were taking/had taken the course in the final year (38.17%). Only 17.63 per cent of the participants had taken the course Geriatric Nursing Practicum. Among the participants, 46.97 per cent had taken the LTC course, and 41.81 per cent took it as an elective course. For the LTC Practicum, only 14.94 per cent had taken the LTC Practicum course. The overall average score of their interest in GLTC during nursing education was 2.29 ± 0.61 , approaching *Neutral*.

3.3 | Willingness to serve in GLTC

The average score in the Willingness to Serve in GLTC scale was 2.91 ± 0.67 , which is close to *Agree* (3 points). Junior college students scored the highest average of 2.95 ± 0.69 , followed by the general university students, scoring 2.93 ± 0.71 , indicating that junior college nursing students have higher willingness to serve in GLTC than nursing students in other academic systems. The statement *I think geriatric long-term care is professional work* scored the highest among all the participants. Among the participants from junior colleges, the item *Caring for older adults or disabled people gives me a sense of achievement* scored 3.18 ± 0.59 . The 2-year junior college and technological university students (3.12 ± 0.43) and 4-year junior college and technological university students (3.09 ± 0.50) agreed with the statement that *When older adults or disabled people have health problems, I am willing to help them*.

TABLE 3 Analysis of GLTC-related practicum experiences (N = 949)

Item	Mean	SD	Rank
Part 1: Frequency of contact for practicum			
1. Frequency of caring for "older adults" in practicum settings	2.77	0.75	3
2. Frequency of caring for "physically or mentally disabled" clients in practicum settings	2.01	0.66	5
Part 2: Effect from practicum experience			
3. Practicum experience with the ability to communicate with elderly or physically or mentally disabled people	3.19	0.52	2
4. Practicum experience with the ability to care with elderly or physically or mentally disabled people	3.21	0.50	1
5. Practicum experience could help apply knowledge to the care of the elderly or physically or mentally disabled people in the future	3.21	0.49	1
6. Interest in geriatric long-term care after nursing practicum	2.45	0.70	4

Note: Item 1, 2 (1 = never, 2 = occasional /1-2 times caring experience, 3 = often/ 3-4 times caring experience, 4 points = always/>5 times caring experience)

Item 3-5 (1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree)

Item 6 (1 = Totally uninterested, 2 = Fair, 3 = Interested, 4 = Very interested)

General university students tended to think *Geriatric long-term care is very challenging* (3.19 ± 0.63).

3.4 | Correlation between the personal characteristics of nursing students, GLTC status and willingness to serve in GLTC

The correlation analysis between the personal characteristics, GLTC status and willingness to serve in GLTC (Table 4) revealed that willingness to serve was positively correlated with the academic system ($F = 17.98, p < .001$) and experience of living with older people ($r = 0.18, p < .001$). Furthermore, willingness to serve in GLTC was positively correlated with interest in GLTC during nursing education ($r = 0.42, p < .001$), GLTC-related practicum experiences ($r = 0.35, p < .001$), GN-related course-taking ($t = 0.09, p < .001$) and LTC course-taking ($t = 0.14, p < .001$).

3.5 | Factors affecting willingness to serve in GLTC

Multiple regression analysis was used to determine factors affecting the willingness to serve in GLTC by including variables with statistical significance. The results (Table 5) revealed that the major predictors were age ($\beta = -0.05, p < .001$), practicum experiences ($\beta = 0.03, p < .001$), and interest in GLTC during nursing studies ($\beta = 0.22, p < .001$), and the explanatory power of the willingness to serve in GLTC was 22 per cent.

4 | DISCUSSION

This study explored the factors influencing willingness to serve in GLTC through the evaluation of final-year nursing students' GLTC-related knowledge, practicum experiences, GLTC-related courses taking status and willingness to serve in GLTC.

Most participants were women aged 20.95 years, and most (45.83%) were students from 5-year junior colleges (equivalent to 3 years [grades 10 to 12] in senior high school and 2 years in university), making their average age lower than that among the participants in foreign studies (Ralph, Walker & Wimmer, 2009; Berman et al., 2005). This explains why the variable Age had a negative influence on the willingness to serve in GLTC ($r = -0.25$). Because of the education system in Taiwan, students majoring in nursing may be those going to junior colleges or the university.

The overall younger age might also explain the insufficient experience working with older adults or disabled people (Chi et al., 2016; Rathnayake et al., 2016). Studies have reported that nursing students with prior experience living with the older adults have a more positive attitude towards them than those without such experience (Allan & Johnson, 2008; Rathnayake et al., 2016; Yen et al., 2009). In this study, nursing students' practicum experiences were positively correlated with their experience living with older people, and their more positive attitude towards older people may have resulted from their experience of having lived with older people (Cheng et al., 2015).

Hsieh and Chen (2017b) surveyed the GN or LTC course-taking status of students in universities in Taiwan. They found that the contents of GN-related courses included many concepts for cultivating interest in geriatric care among nursing students; for instance, the ageing process, communication, ethics, older people's activities, health promotion, nutrition and dementia care. The contents of LTC courses typically address LTC status, policies, institutional care management, LTC ethical issues, and LTC service models and systems (American Association of Colleges of Nursing, 2010). The results of the present study indicated that students taking GLTC-related courses in baccalaureate nursing programmes may be more familiar with relevant GN-related concepts. However, the lower scores in *GLTC Service Resources*, *Common Assessment Tools*, and *Introduction of Care Models* highlighted the fact that in school education, the GN- or LTC-related courses that are typically taken tend to be electives, and thus, not all students capitalize on the opportunity

TABLE 4 Correlation analysis results between the personal characteristics of nursing students and the GLTC status and willingness to serve in GLTC (N = 949)

Variable	Willingness to serve in GLTC		
	M	SD	Analysis
Personal characteristics			
Academic systems ^a	2.91	0.67	$F = 17.98^{**}$
5-y JC	2.95	0.69	
2-y C	2.81	0.65	
4-y C	2.87	0.65	
GU	2.93	0.71	
Gender ^b	1.90	0.30	$t = 0.05$
Age ^c	20.95	1.48	$r = -0.25^{**}$
Living with older adults ^c	2.39	1.40	$r = 0.18^{**}$
Living with disabled people ^c	0.71	1.30	$r = 0.04$
Interest in GLTC during study period ^c	2.29	0.61	$r = 0.42^{**}$
Current GLTC status			
Knowledge ^c	9.06	3.05	$r = 0.05$
Practicum experiences ^c	11.97	2.00	$r = 0.35^{**}$
Course-taking status—GN ^b	0.77	0.45	$t = 0.09^{**}$
Course-taking status—LTC ^b	0.47	0.50	$t = 0.14^{**}$

Note: 1:5-y JC: Five-year junior colleges; 2:2-y C: Two-year colleges; 3:4-y C: Four-year colleges; 4: GU: General University.

^aOne-way ANOVA.

^bt test.

^cPearson's correlation.

*Significant at $p < .05$

**Significant at $p < .01$

to take the courses, resulting in relatively insufficient knowledge of the relevant concepts. Because LTC policies are being promoted at present, nursing students should be able to obtain the latest GLTC-related information from nursing education; otherwise, they will lack

sufficient knowledge of the GN- or LTC-related issues. Furthermore, *GLTC Service Resources*, *Common Assessment Tools*, and *Care Models* should be incorporated into GN- or LTC-related courses, and these courses should be integrated to reduce the repetition of concepts and avoid confusion (Berman et al., 2005; Hsieh & Chen, 2017a, 2018; Rathnayake et al., 2016).

Nursing students in the present study were found to have more experiences caring for older adults than for disabled people. This result was similar to studies conducted by Ralph et al. (2009) and Shen and Xiao (2012), which found that nursing students having the experience of caring for older people or disabled people felt that the experiences were helpful in enhancing their care abilities and communication skills and that they could apply the professional knowledge gained to care for these populations in the future. Nursing students' competence in caring for older or disabled people, communication skills, relevant professional knowledge, and willingness to serve them could be enhanced through GLTC-related practicums (Darling et al., 2018). The frequency of caring for older adults or disabled cases in the clinical setting has been increasing, and those nurses with the experience of caring for older people in the practical settings may feel more capable of undertaking GN- or LTC-related work in the workplace (Allan & Johnson, 2008; Cheng et al., 2015).

Furthermore, LTC-related course-taking status was found to be positively correlated with willingness to serve in GLTC. Only 46.97 per cent of the nursing students had taken LTC courses, indicating that such courses were mostly offered as elective courses in baccalaureate nursing programmes or that the nursing students might have had enough credits and therefore no need to take more elective courses, causing the insufficient understanding of GLTC among final-year nursing students and unfamiliarity with caring for older adults or disabled cases in the future. This result was similar to the results of the survey conducted by Hsieh and Chen (2017b) on the LTC status among 122 nurses in Taiwan in 2014; they found that nurses who had taken GN or LTC courses in nursing education had better LTC-related knowledge, practices, care intention and nursing competencies.

TABLE 5 Summary of the multiple regression analysis of all the variables of the overall willingness to serve in GLTC (N = 949)

Model	R	R square	Adjusted R square	Unstandardized coefficients			Collinearity statistics	
				B	SEB	t	Tolerance	VIF
Overall	0.47	0.23	0.22					
(Constant)				2.98	0.20	15.29		
age				0.05 ^{**}	0.01	2.08	0.72	1.39
Living with older adults				0.01	0.01	1.41	0.97	1.03
LTC Course-taking				0.02	0.03	0.93	0.76	1.32
Practicum experiences				0.03 ^{**}	0.01	3.81	0.75	1.32
Interest in GLTC during study period				0.22 ^{**}	0.02	9.90	0.76	1.31

Note: Statistics were based on stepwise regression analysis.

*Significant at $p < .05$.

**Significant at $p < .01$.

GLTC is a social trend, and the present study found that the nursing students regarded GLTC work as professional and rewarding, and when the elders or disabled elders had health problems, the nursing students would be willing to help them, consistent with the findings of Rathnayake et al. (2016). Gilje et al. (2007) surveyed GLTC status among 202 schools and found that when the students had practicum in GN-related facilities (such as nursing homes, hospitals, older adult care institutions, day care centres and home care centres), their willingness to serve in GLTC after graduation could be enhanced. Chi et al. (2016) investigated the willingness to serve in GLTC among 612 nursing students in baccalaureate nursing programmes and found that those having had the experience of being in contact with older people or service learning were willing to serve older people and would also pay attention to related geriatric issues.

Studies have demonstrated that nurses having positive educational experiences such as taking GN-related courses tend to have a higher willingness to serve older people (Koehler et al., 2016). The relevant results agree with our findings, indicating that GLTC-related courses enhance the nursing students' willingness to serve in GLTC. However, the participants scored high in *I think that GLTC work might not be suitable for my personality, It is troublesome to take care of older or disabled people and their families, and I do not want to enter the LTC field due to the uncertain nursing work environment and ambiguous policies*; this suggests that students may take into account their personalities, the welfare benefits of LTC work, the nursing work environment and the clarity of policies for serving in GLTC, consistent with the results of Hsieh and Chen (2017b) regarding nurses' willingness to serve in GLTC in Taiwan in 2013. Our results are also similar to those of the survey conducted by Haron et al. (2013) in which 61 per cent of nursing students had no intention to work in GN, whereas only 12 per cent were considering and 27 per cent were prepared for GN as a career choice but only after receiving advanced specialist training in that field.

Ayoglu et al. (2014), in their survey of medical and nursing students, found that the more positive a student's attitude towards older people was, the higher their willingness to serve them. Hsieh and Yang (2009) contended that the willingness to care for older adults comes from the attitude formed based on a student's perception of them coupled with personal experiences and values; thus, positive perception and experiences may lead students to engage in GLTC-related services, such as enjoying interacting with older adults, participating in activities with them, and providing help and care during activities.

The major factors influencing nursing students' willingness to serve were age, practicum experiences and interest in GLTC during nursing education. The results were consistent with the findings in domestic and international studies exploring nursing students' willingness to serve in GLTC and highlighted that nursing students with practicum experiences and interest in GLTC during nursing education tend to have a stronger motivation and thus a higher willingness to serve in GLTC (Hsieh & Yang, 2009; Hsieh & Chen, 2018; Koehler et al., 2016).

4.1 | Limitations

There are some limitations to this study. This study adopted a cross-sectional correlation design; thus, the results depended on the condition and status of the respondents at the time of completing the questionnaire. The respondents completed their statements subjectively, making it difficult to see their actual intention. Moreover, this study was a quantitative study, which made it difficult to understand the nursing students' willingness to serve in GLTC.

5 | CONCLUSIONS

The present survey of 949 pre-registered nurses explored factors affecting their willingness to serve in GLTC. The most important factors were age, practicum experiences and interest in GLTC during nursing education, all of which can be enhanced through GLTC-related courses and practicum experiences. Nurses play a critical role in GLTC, and GLTC-related courses are thus crucial to develop sufficient professional human resource capacity. We recommend that the government continue to nurture professional nurses' involvement in the practice of GLTC. Longitudinal follow-up studies should be conducted continuously on final-year nursing students (pre-registered nurses) having taken GLTC-related courses after graduation to elucidate their effects on nurses' GLTC nursing competence status and willingness to serve in GLTC.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

CMC was responsible for the study idea and design, and made critical revisions to the paper for important intellectual content. HMC and FCY performed the data collection and analysis. PLH was responsible for the drafting of the manuscript.

ETHICAL APPROVAL

Ethical approval for the study was obtained from the Human Research Ethics Council (HREC-E-105-306-2) in National Cheng Kung University.

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