Nurses play an important role in palliative care, and their willingness to engage in such work is thus crucial. The purpose of this study was to develop, and test the reliability and validity of, the Nurses’ Willingness to Engage in Palliative Care Scale. The sample consisted of 224 Chinese nurses with a mean age of 32.36 (SD, 5.986) years. The critical ratio method was used for item analysis. Reliability was assessed by calculating Cronbach α. Content validity was assessed by calculating a content validity index based on ratings from 5 nursing experts. Structural validity was calculated by exploratory factor analysis. The developed scale consists of 20 items over 4 dimensions (attitude toward the behavior, subjective norms, perceived behavioral control, and behavioral intention) and has high content validity (0.97). The reliability of the scale was found to be sufficient (Cronbach α = .896). Four common factors were extracted from exploratory factor analysis, and the cumulative variance explained was 68.938%. The Nurses’ Willingness to Engage in Palliative Care Scale has good reliability and validity and can be used to assess nurses’ willingness to work in palliative care units.

KEY WORDS
engagement, nurses, palliative care, reliability, validity

With the continual development of society and associated changes in lifestyles, the incidence of chronic diseases, malignant tumors, and other diseases is increasing.1 Because of the continuous progress of medical technology, the survival of patients with chronic diseases and tumors has been prolonged. Palliative care, which began in the 1960s and aimed to alleviate symptoms and improve quality of life, has received increased attention. The World Health Organization stated that palliative care can ease or prevent the physical, psychological, social, and mental suffering of patients (and their families) facing a life-threatening disease. Palliative care not only can improve patients’ quality of life, by promoting dignity and comfort, but also has a positive impact on the disease course.2 Nurses have the most contact with patients among all members of multidisciplinary care teams and also play an important role in palliative care through dynamic assessment of patients, provision of death education and health guidance for patients and their families, addressing the symptoms of patients, and providing information and

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suggestions to others members of multidisciplinary care teams. However, the number of palliative nurses in China is insufficient, and the quality of the care provided varies. The demand for palliative care remains unmet in China, hindering overall development of the palliative care sector. Therefore, it is important to understand the factors influencing nurses’ willingness to choose to work in palliative care. Most of the current scales (in China and elsewhere) focus on nurses' knowledge of, and attitudes toward, palliative care (eg, turnover intention, etc). For example, there are questionnaires pertaining to nurses' knowledge of palliative care, their attitudes toward caring for terminally ill persons and their families, their attitudes toward death, and so on. However, little attention has been paid to nurses' willingness to engage in palliative care. Therefore, this study aimed to develop a standardized tool to assess nurses' willingness to work in palliative care units and test its reliability and validity. The developed instrument could promote stability and further development of palliative care teams.

**Theory of Planned Behavior**
The theory of planned behavior, proposed by the American psychologist Icek Ajzen, combines several concepts central to social and behavioral sciences. It suggests that people's intention to participate in behaviors is the key factor determining whether such behaviors in fact occur. Intention can be predicted by attitude toward the behavior, subjective norms, and perceived behavioral control. Attitude toward the behavior refers to the degree to which an individual's overall perception of a behavior is positive or negative, which is in turn affected by behavioral beliefs. Subjective norms are the social pressures that individuals experience when deciding whether to perform a particular behavior, whereas perceived behavioral control refers to the perceived difficulty of performing a behavior and whether an individual believes that they are capable of executing it. Finally, behavioral intention refers to an individual's intention to perform an action. The theory of planned behavior has been widely used to predict the behavioral intention and clinical behavior of medical staff.

**METHODS**

**Design**
This study was an instrument development study. Development and validation phases were conducted for this questionnaire.

**Development Phase**
Through a literature review, preliminarily versions of a general information questionnaire (21 items concerned gender, age, etc) and Nurses' Willingness to Engage in Palliative Care Scale were devised. Based on the framework of the theory of planned behavior, the scale has 32 items spread across 4 dimensions, including attitude toward the behavior (7 items), subjective norms (7 items), perceived behavioral control (8 items), and behavioral intention (10 items). The Delphi technique was applied to determine whether items should be omitted or retained. The inclusion criteria for the panel of nursing experts in this study were as follows: bachelor's degree or above; co–chief superintendent nurse grade or above; more than 5 years of nursing work experience; and relevant knowledge or experience of hospice care. The questionnaire was distributed by email and WeChat (an instant messaging software application developed by Tencent [Shenzhen, China]). The questionnaire comprises three sections: introduction to and objectives of the current study; questions on the respondent's age, educational background, professional title, degree of familiarity with the issue at hand, and so on; and the main questionnaire. A 5-point Likert scale was used to classify items as unimportant, not particularly important, moderately important, relatively important, or very important. The respondents rated the importance of each item and could provide additional information (eg, suggest modifications). A mean importance score ≥3.50 and coefficient of variation <0.25 were used as screening cutoff criteria, and items were added, omitted, or modified based on the experts' opinions and group discussions.

**Validation Phase**
Convenience sampling was used, and the online questionnaire survey was launched in August 2021. In total, 250 samples were collected from members of staff of hospitals of all levels, in 17 provinces and cities in China; 224 valid samples were obtained. The inclusion criteria were as follows: formal nursing employment, voluntary study participation, and no communication difficulties. The exclusion criteria were receiving on-the-job training or being on leave. The purpose of the survey and instructions were imparted by the researchers, and the questionnaire was then completed by the nurses.

Sociodemographic data were obtained, via a separate form, on gender (male or female); age; marital status (single, married, divorced or widowed); education (technical secondary school, college, bachelor's degree, or master's degree or above); type of hospital employment (tertiary, secondary, or primary hospital); department worked in; employment type, position, and title(s); whether the hospital has a hospice ward; whether the respondent has worked in a hospice ward; whether the respondent has received hospice training; nursing career length; time spent working in a hospice; the number of end-of-life patients cared for; and factors promoting or serving as a barrier to hospice work.

**Data Analysis**
SPSS statistical software (version 25.0; IBM Corp, Armonk, New York) was used for the statistical analysis. The critical ratio method was used to eliminate questionnaire items
showing no significant difference between the high- and low-scoring groups ($P > .05$). We also omitted items with a correlation coefficient <0.3 and/or were nonsignificant ($P > .05$). Cronbach $\alpha$ was used to measure the reliability, that is, internal consistency, of each dimension and the overall scale. Also, the content validity of each item and that of the overall scale were evaluated. Exploratory factor analysis (EFA), principal component analysis, and the “variance maximization orthogonal rotation method” were used to calculate structural validity. If the number of common factors in the scale is largely consistent with the theoretical hypothesis, the loading value of each item on the corresponding common factors is high (>0.4), and the loading value on other common factors is low, the scale can be considered to have good structural validity.

**Ethical Approval**
This study was approved by the Ethics Committee of Jiangsu Cancer Hospital. All participants provided informed consent before participating in the study.

**RESULTS**

**The Delphi Method**
From December 2020 to April 2021, 17 experts from 7 provinces and cities in China were selected to appraise the content of the developed scale in 2 separate rounds. There were 8 palliative care experts, 1 nursing education expert, 6 nursing management experts, 1 community nursing expert, and 1 psychological nursing expert. The average age of the panel members was 43.18 ± 5.60 years, and their average career length was 22.18 ± 7.13 years. Ten of the panel members were of co-chief superintendent nurse grade or above, and 6 were graduate tutors or university professors. During the first and second rounds, 15 and 14 questionnaires were distributed, respectively; all of the returned questionnaires were valid (effective response rate, 100%). The “authority coefficients” of the 2 rounds were both 0.88, taken to indicate that the experts had high authority. Seven experts (46.7%) suggested revisions in the first round, whereas 3 experts (21.4%) suggested revisions in the second round. Kendall $W$ values for the 2 rounds, calculated using the Delphi method, were 0.308 and 0.363, respectively ($P < .01$), indicating high consistency of the correspondence results. After the first round, 8 items were omitted, 6 were modified, and 1 was added. At the end of the second round, 1 further item was omitted, and 4 were modified. The final Nurses’ Willingness to Engage in Palliative Care Scale includes 4 dimensions and 22 items.

**Nurses’ Sociodemographic Characteristics**
Of the 250 questionnaires distributed, 224 valid responses (89.6%) were received. Detailed data of the respondents are shown in Table 1.

| TABLE 1 Sample Characteristics |
|--------------------------------|
| Age, mean (SD), y | 32 (5.9) |
| Marital status, n (%) |  |
| Single | 54 (24.1) |
| Married | 168 (75.0) |
| Divorced/separated | 2 (0.9) |
| Widowed | 0 (0) |
| Years worked, n (%) |  |
| <1 | 7 (3.1) |
| 1-5 | 51 (22.8) |
| 6-10 | 67 (29.9) |
| 11-15 | 47 (21.0) |
| 16-20 | 35 (15.6) |
| 21-25 | 12 (5.4) |
| >25 | 5 (2.2) |
| Level of hospital, n (%) |  |
| III | 191 (85.3) |
| II | 28 (12.5) |
| I | 5 (2.2) |
| Trained in palliative care, n (%) |  |
| Yes | 136 (60.7) |
| No | 88 (39.3) |

All data are number (%) unless indicated otherwise.

**Item Analysis**
The critical ratio method was used to calculate the total scores of the participants, and the independent-sample $t$ test was used to compare the significance of the differences in mean scores between the high group (top 27%) and low group (bottom 27%). Items for which $P < .05$ were considered sufficiently distinct to be retained; all other items were omitted. The total scores were ranked in descending order, and the critical values of the high group and the low group are 27% (60th, 100 points) and 73% (165th, 85 points), respectively. There were statistically significant differences in the item scores between the 2 groups ($t = 6.997-13.814$, $P < .05$) except for items 9 (“The palliative training provided by our hospital plays a very important role in allowing me to acquire palliative knowledge”) and 11 (“Involvement in palliative care can
increase self-awareness"). The results of the correlation analysis showed that, except for items 9 and 11 \((P > .05)\), the correlation coefficients between each item and the total scale score all exceeded 0.3 \((0.443-0.778)\) and were statistically significant \((P < .05)\).

Reliability of the Scale

Internal Consistency
The Cronbach \(\alpha\) for the overall scale was .896. Items 9 and 11 were negatively correlated with the total scores of the other items; after omitting these 2 items, the Cronbach \(\alpha\) coefficient for the overall scale increased to .906, justifying the omission of those items.

Validity Analysis

Content validity index
After items 9 and 11 had been omitted, the item-level content validity index (CVI) of the items ranged from 0.85 to 1.0, and the scale-level CVI was 0.97 (Table 2).

Structural validity analysis
An EFA was conducted for each item; those with a factor loading <0.4, as well as those loading on multiple factors, loading onto common factors with ≤2 items, or showing inappropriate factor loadings, were omitted. For the first EFA, the Kaiser-Meyer-Olkin value was 0.904, and the test statistic for Bartlett test of sphericity was 2671.541 \((P < .001)\). Four common factors with characteristic values >1 were

| TABLE 2 | Content Validity Index Results |
|---------|-------------------------------|
| Rater 1 | Rater 2 | Rater 3 | Rater 4 | Rater 5 | Rater 6 | Rater 7 | No. of Items Rated 3 or 4 | I-CVI |
| 4       | 4      | 4      | 4      | 4      | 4      | 4      | 7                  | 1     |
| 4       | 3      | 4      | 4      | 4      | 4      | 4      | 7                  | 1     |
| 4       | 4      | 4      | 4      | 4      | 4      | 4      | 7                  | 1     |
| 4       | 4      | 4      | 4      | 4      | 3      | 4      | 7                  | 1     |
| 4       | 4      | 4      | 4      | 4      | 4      | 4      | 7                  | 1     |
| 4       | 4      | 3      | 4      | 4      | 4      | 4      | 7                  | 1     |
| 3       | 4      | 3      | 4      | 4      | 2      | 4      | 6                  | 0.85  |
| 4       | 4      | 4      | 4      | 4      | 4      | 4      | 7                  | 1     |
| 4       | 3      | 4      | 3      | 3      | 2      | 4      | 6                  | 0.85  |
| 3       | 4      | 4      | 4      | 4      | 4      | 4      | 7                  | 1     |
| 4       | 2      | 4      | 3      | 4      | 4      | 4      | 6                  | 0.85  |
| 4       | 4      | 4      | 4      | 4      | 4      | 4      | 7                  | 1     |
| 4       | 3      | 4      | 4      | 3      | 4      | 4      | 7                  | 1     |
| 4       | 4      | 4      | 4      | 4      | 4      | 4      | 4                  | 1     |
| 3       | 4      | 4      | 4      | 4      | 3      | 4      | 7                  | 1     |
| 4       | 4      | 4      | 4      | 4      | 4      | 4      | 4                  | 1     |
| 4       | 3      | 4      | 4      | 2      | 3      | 3      | 6                  | 0.85  |
| 4       | 4      | 3      | 4      | 3      | 4      | 4      | 7                  | 1     |
| 4       | 4      | 4      | 4      | 4      | 3      | 7      | 1                  | 1     |
| 4       | 4      | 4      | 4      | 4      | 4      | 7      | 1                  | 1     |

Abbreviation: CVI, content validity index.
Scale-level CVI = 0.97.
extracted, and the cumulative variance explained was 63.205%. However, the factor loading values of items 9 and 11 were <0.4, so these 2 items were omitted prior to the second EFA. The second EFA had a Kaiser-Meyer-Olkin value of 0.910, whereas the test statistic for Bartlett test of sphericity was 2632.186 ($P < .001$). Four common factors with characteristic values >1 were extracted, and the cumulative variance explained was 68.938%. Items 15 to 22 had a high loading on the first factor, so were classified as intention related. Items 1 to 6 had a high loading on the second factor and were thus classified as attitude toward the behavior related. Items 12 to 14 had a high loading on the third factor and were thus classified as perceived behavior control related. Finally, items 7, 8, and 10 had a high loading on the fourth factor and were thus classified as subjective norm related. These results were consistent with our expectations (Table 3).

| TABLE 3 Exploratory Factor Analysis Results |
|---------------------------------------------|
| Rotated Component Matrix | 1   | 2   | 3   | 4   |
| Intention                   |     |     |     |     |
| Item 22: I am prepared for what palliative care requires | 0.848 | 0.185 | 0.118 | 0.149 |
| Item 21: I would like to promote palliative care | 0.797 | 0.161 | 0.056 | 0.212 |
| Item 17: I would like to explain palliative care to dying patients and their families | 0.790 | 0.072 | 0.103 | 0.058 |
| Item 18: I am willing to learn and improve my knowledge of palliative care and apply it to palliative care units | 0.784 | 0.088 | 0.165 | 0.039 |
| Item 19: I would like to work with palliative staff to improve the existing system | 0.781 | 0.200 | 0.196 | 0.103 |
| Item 20: I would like to work on the problems of terminal patients and their families | 0.741 | 0.189 | 0.212 | 0.137 |
| Item 16: I would like to work in a palliative care unit | 0.735 | 0.178 | 0.206 | 0.143 |
| Item 15: I like to participate in palliative training sessions every time they are held | 0.709 | 0.142 | 0.171 | 0.170 |
| Attitude toward the behavior |     |     |     |     |
| Item 4: Helping terminal patients and their families embodies my professional values | 0.151 | 0.864 | 0.044 | 0.020 |
| Item 6: I think multidisciplinary collaborations can facilitate palliative care delivery | 0.148 | 0.822 | −0.087 | 0.073 |
| Item 5: Palliative care provides comfort and care for dying patients and their families | 0.102 | 0.805 | 0.151 | 0.172 |
| Item 2: I think that constructing palliative care units is very important | 0.159 | 0.791 | 0.155 | 0.013 |
| Item 1: I think that nursing has an important role in palliative care | 0.153 | 0.791 | 0.034 | 0.071 |
| Item 3: I pay close attention to the physical, psychological, spiritual, and social status of terminally ill patients and their families | 0.209 | 0.748 | 0.177 | 0.134 |
| Perceived behavioral control |     |     |     |     |
| Item 14: Working in palliative care units enhances my sense of self-worth and professional achievement and gives me a clear career development plan | 0.196 | 0.081 | 0.844 | 0.152 |
| Item 12: Working in palliative care units has helped me to fully understand the meaning of death | 0.284 | 0.164 | 0.771 | 0.084 |
| Item 13: I am well-qualified to work in palliative care units | 0.298 | 0.079 | 0.716 | 0.258 |
| Subjective norms |     |     |     |     |
| Item 10: My family had a major influence on my attitude toward working in palliative care units | 0.178 | 0.158 | 0.187 | 0.818 |
| Item 8: The construction of a palliative care ward in our hospital will heighten my interest in palliative care | 0.193 | 0.056 | 0.211 | 0.794 |
| Item 7: The palliative care policies of the state have facilitated my palliative care work | 0.161 | 0.106 | 0.045 | 0.758 |
DISCUSSION

The result of our analysis indicated good concordance among the experts’ opinions. Item and correlation analyses, along with analyses of internal consistency, content validity, and structural validity, were used to screen and evaluate the items comprising our instrument. It is generally believed that CVI values of ≥0.78 and ≥0.90 for items and the overall questionnaire, respectively, indicate good content validity. A Cronbach α > .8 indicated that our scale is reliable. Along with the high degree of approval of the content of the scale from our expert panel, the internal consistency, content validity, and reliability were all good. After 2 EFAs, 4 dimensions were extracted, and 20 items were retained. The items were distributed among the dimensions in accordance with our theoretical hypothesis, thereby demonstrating good structural validity.

Nurses are the most important members of hospice care teams. The United Kingdom has begun to explore a nurse-led hospice care model, in which several advanced nurse practitioners who specialize in palliative care provide services for patients. However, some studies found that nurses were less willing to practice palliative care, whereas others found that medical staff with more experience were more willing to engage in palliative care. To date, research has focused on palliative nurses training programs, professional identity, core competence, work experience, and other aspects. Existing scales are mainly used to investigate nurses’ knowledge of palliative care; less attention has been paid to the development of tools assessing nurses’ willingness to work in palliative care facilities. According to the theory of planned behavior, all factors that may affect behavior are indirectly related to behavioral intention. There have been studies on the behavioral intention of nurses in other nursing services based on the theory of planned behavior, which have good reliability and validity. Therefore, nurses’ willingness to engage in palliative work can be understood according to the factors affecting behavioral intention, which could improve palliative teams and promote the development of palliative care. On the basis of the theory of planned behavior, the dimensions of attitude toward the behavior, subjective norms, perceived behavioral control, and behavioral intention were assessed in this study, as they pertain to nurses’ willingness to practice in palliative care facilities. Factors acting as a barrier to the development of palliative care were also analyzed, with the goal of promoting the stability and development of palliative care teams. The scale is divided into 4 dimensions with a maximum total score of 110 points. The higher the total score, the stronger the intention of nurses to engage in palliative care work, and the higher the score in a given dimension, the greater its effect on behavioral intention. If a nurse’s score is below average, she is less willing to engage in palliative care and may choose another specialty. If the score is in intermediate, they could improve their understanding of palliative care through training and clinical practice. Moreover, increasing awareness of palliative care could improve intentions to practice.

Limitations of the Study

This study was a relatively small-scale preliminary survey, and the results are not representative of the general population of China. The scope of this research should be expanded in the future to encompass other medical institutions across the country, and EFA should be conducted to determine the factors that influence the decision to work in palliative care, to better promote this sector and the training of professionals.

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References

1. Sleeman KE, de Brio M, Etkind S, et al. The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions. Lancet Glob Health. 2019;7(7):e883-892. doi:10.1016/S2214-109X(19)30172-X.
2. World Health Organization. Integrating palliative care and symptom relief into primary health care: a WHO guide for planners, implementers and managers. https://www.who.int/publications/i/item/integrating-palliative-care-and-symptom-relief-into-primary-health-care. Published August 20, 2018.
3. Chen Y, Cheng Q, Liu X, et al. The role and status of nurses in hospice care [in Chinese]. Chin Nurs Manage. 2018;18(3):311-315. doi:10.3969/j.issn.1672-1756.2018.03.006.
4. Lu M, Luo Z. Research progress on hospice care needs of end-stage cancer patients [in Chinese]. Chin Nurs Res. 2022;36(5):850-857. doi:10.12102/j.issn:1009-6493.2022.05.017.
5. Wang C, Jia H, Wu K, et al. Progress on application of multidiemnsional measure of attitudes toward caring for terminally ill persons and their families. Am J Hosp Palliat Care. 1991;8(5):37-43. doi:10.1177/108196269100800069.
6. Wong PT, Reker GT, Gesser G. Death attitude profile—revised: a multidimensional measure of attitudes toward death. In: Death Anxiety Handbook: Research, Instrumentation, and Application. Vol. 121. Washington, DC: Taylor & Francis; 1994:121-148.
7. Ajzen I. The theory of planned behavior. Organ Behav Hum Decis Process. 1991;50(2):179-211. doi:10.1016/0749-5979(91)90020-T.
8. Frommelt KH. The effects of death education on nurses’ attitudes toward caring for terminally ill persons and their families. Am J Hosp Palliat Care. 1991;8(5):37-43. doi:10.1177/108196269100800069.
9. Hickish D, Roberts D. The nurse-led model of hospice care. Int J Palliat Nurs. 2019;25(3):143-149. doi:10.12968/ipjn.2019.25.3.143.
10. Chen L, Li XH, Pan X, et al. Nurses’ knowledge, attitudes, and willingness to practice hospice care: an analysis of influencing factors. PloS One. 2022;17(2):e0259647. Published 2022 Feb 24. doi:10.1371/journal.pone.0259647.
13. Han G, Chen C, Wang P, et al. Qualitative study on work status of palliative care nurses [in Chinese]. J Nurs Sci. 2020;35(12):65-67. doi:10.3870/j.issn.1001-4152.2020.12.065.

14. Fan R, Li X, Huang X, et al. Establishment of training system for hospice care nurses [in Chinese]. Chin J Nurs Educ. 2020;17(9):779-784. doi:10.3761/j.issn.1672-9234.2020.09.002.

15. Zhao Y, Lu Y, Wang Y, et al. The research in core competencies of hospice advanced practice nurse [in Chinese]. Chin Nurs Manage. 2021;21(2):268-273. doi:10.3969/j.issn.1672-1756.2021.02.022.

16. Li S, Yu J, Xu B. Compilation and reliability and validity test of participation intention of nurses on internet plus nursing service scale [in Chinese]. Chin J Mod Nurs. 2022;28(2):205-209. doi:10.3760/cma.j.cn115682-20210413-01623.

17. Shen Y, Nilmanat K, Promnoi C. Palliative care nursing competence of Chinese oncology nurses and its related factors. J Hosp Palliat Nurs. 2019;21(5):404-411. doi:10.1097/NJH.0000000000000581.

18. Dorney P, Pierangeli L. A phenomenological study: student nurses’ perceptions of care of the dying in a hospice-based facility. J Hosp Palliat Nurs. 2021;23(2):162-169. doi:10.1097/NJH.0000000000000750.